

# Current Trends in Placing Posterior Composite Restorations: Perspectives from Palestinian General Dentists: A Questionnaire Study

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ABSTRACT

**Aim:** The success of composite restorations relies on material selection and practitioner-related factors that shape the overall outcome. This study explores the practices of Palestinian general dental practitioners in placing posterior composites, examining the impact of work sector, experience, and gender on their choices. **Materials and Methods:** The study was conducted as an online cross-sectional questionnaire and involved 351 participants, with a response rate of 69.8%. The survey comprised 18 closed-ended questions covering demographics, material selection, and composite placement in special cases, techniques, and factors influencing the choices. Statistical analyses included descriptive statistics, chi-squared tests, and Fisher's exact tests. **Results:** Composite was the predominant choice for small-size (83.7%) and large-size posterior cavities (60.4%). Practitioners commonly opted for composite restorations in cases involving occlusal parafunctional activity (60%), poor oral hygiene (78%), and subgingival cavities (72.2%). Only 19.6% and 5.3% reported occlusal and gingival beveling, respectively. Rubber dams for isolation stood at 30%, one-step self-etch adhesives at 44.9%, and the oblique layering technique at 51%. Light-emitting diode curing units were popular (97.55%), but monitoring output with a radiometer was infrequent (93.5%). Tofflemire metal matrix usage was 46.1%, whereas a sectional matrix system was employed by 29.8%. A 2 mm layer exposure to light curing for 20s was reported by 62%, and 27.75% utilized additional light-curing postmatrix band removal. **Conclusion:** The study highlights the need for Palestinian dental professionals to update their clinical approaches in placing composite restorations in posterior teeth. Gender, work sector, and experience influence practitioners' choices, emphasizing the importance of tailored continuing education programs for improving clinical practices.

**KEYWORDS:** Composite resin, dental practitioners, posterior restorations

Received : 15-Oct-2023  
Revised : 25-Jan-2024  
Accepted : 29-Jan-2024  
Published: 29-Apr-2024

## INTRODUCTION

Restorative dentistry primarily focuses on treating carious or fractured teeth to restore their structure, function, and aesthetics, with the restorative treatment of dental caries in posterior teeth constituting the primary daily workload for most general dental practitioners.<sup>[1,2]</sup>

Advancements in dental materials and techniques have changed how dentists approach restorative dentistry.<sup>[3]</sup> Adhesive dentistry led to a paradigm shift in dental

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**How to cite this article:** Arandi NZ. Current trends in placing posterior composite restorations: Perspectives from Palestinian general dentists: A questionnaire study. J Int Soc Prevent Communit Dent 2024;14:112-20.

Access this article online

Quick Response Code:



Website: <https://journals.lww.com/jpcd>

DOI:  
10.4103/jispcd.jispcd\_157\_23

practice by allowing dentists to perform minimally invasive procedures, preserve tooth structure, and achieve superior aesthetic outcomes.<sup>[4,5]</sup> Composite has emerged as a favored choice for posterior restorations over traditional amalgam due to its enhanced esthetics and improved mechanical properties.<sup>[6,7]</sup> The shift towards using composite for posterior restorations is also influenced by growing concerns regarding amalgam's potential health and environmental risks. Amalgam restorations contain mercury, a substance known for its toxicity and environmental impact. While the dental community has long debated the safety of amalgam, the trend is moving towards more environmentally friendly and biocompatible materials.<sup>[8-10]</sup> As a result, resin composite, which does not contain mercury and poses minimal health and environmental risks, is gaining prominence as a safer and more socially responsible choice for dental restorations.

Nonetheless, the survival rate of composite restorations involves a complex interplay of factors beyond just the material used; it encompasses a multifactorial process in which operator-related and patient-related elements are combined with technical aspects.<sup>[11-13]</sup> Understanding the clinical technique of posterior composite restorations contributes significantly to achieving successful outcomes regarding functional durability, esthetic integration, and long-term patient satisfaction.<sup>[2,14]</sup>

While many international dental schools predominantly emphasize training dental students in placing posterior composite restorations,<sup>[15-17]</sup> several studies report that general practitioners and clinicians still have apprehensions and misconceptions regarding applying composite resins in posterior restorations.<sup>[18-22]</sup> Hence, it becomes imperative to ensure that dental practitioners continuously understand and adopt novel restorative materials and techniques as they emerge.

Several studies investigated the clinical practices of general dentists in performing posterior composite restorations, highlighting key findings and the trends and challenges in this field.<sup>[18,19,23-27]</sup> These studies highlight that variations persist in material selection, handling, adhesive protocols, and clinical techniques despite the growing adoption of adhesive techniques and composite materials. Moreover, these investigations emphasize the significance of continuing education, practical training, and staying updated with advancements in restorative dentistry.

Interestingly, no investigations have assessed the knowledge and practice of general dental practitioners in Palestine concerning the placement of posterior composite restorations. This study, therefore, sought

to investigate the practice related to the placement of posterior composites among general dental practitioners in Palestine while also exploring whether factors, such as the nature of their practice, years of experience, and gender influence their preferences.

## MATERIALS AND METHODS

### SETTING AND DESIGN

This cross-sectional study was conducted in Palestine from January to March 2023. Participants were recruited from the approximately 4000 registered dental practitioners based on records from the Palestinian Dental Association in 2022. Data collection utilized an online questionnaire via Google Forms, comprising 18 closed-ended questions focused on the placement of posterior direct composite restorations in occlusal class I and II cases. The questionnaire was distributed to general dentists through dental-related social media groups and individual channels.

### ETHICAL APPROVAL AND INFORMED CONSENT

This study received ethical approval from the Institutional Review Board at the Arab American University in Palestine (2022/A/1/N) and was conducted following the Declaration of Helsinki guidelines. The questionnaire was accompanied by a cover letter explaining the study's objectives, the voluntary and anonymous nature of participation, and the confidential handling of the collected data. All participants were duly informed that, by clicking "Submit," they were providing their consent to take part in the study.

### SAMPLING CRITERIA

All actively practicing general practitioners in Palestine were invited to participate in this study. The questionnaire was shared with the participants through dental-related social media groups and individual distribution. The sample size of 351 was determined using the Raosoft.com sample size calculator, with a 95% confidence interval and a 5% margin of error.

### DATA COLLECTION

The questionnaire, adapted from a previously published study,<sup>[23]</sup> underwent a pilot study involving 20 general practitioners not part of the final survey to verify its clarity and simplicity. After evaluating the responses, the questionnaire was finalized, introducing the study's background, objectives, voluntary participation, confidentiality, anonymity, instructions, and a consent statement. Participation in the survey indicated agreement with the consent statement. The questionnaire comprised 18 closed-ended questions regarding the placement of posterior

direct composite restorations in occlusal class I and II cases. It was divided into four sections: The first section included information about the demographics (Questions 1–3), the second section included questions about material selection and composite placement in special cases (Questions 4–8), the third part of the questionnaire included questions about the use of composite use in specific situations (Questions 9–10), and in the final part of the questionnaire, participants were questioned about their techniques for posterior composite restoration (Questions 11–18).

**STATISTICAL ANALYSIS**

Data analysis was performed using the IBM SPSS Statistics, version 28 (IBM, Armonk, New York, USA), with descriptive statistics presented as frequency and percentage. Statistical associations among dentists’ demographic characteristics were examined using the chi-square test, with Fisher’s exact test used for table cell counts less than 5. *P* value < 0.05 was considered statistically significant.

**RESULTS**

The survey included 245 dental professionals, with a participation rate of 69.8%. Of these, 52 (21.22%) had less than 5 years of experience, whereas 100 (40.8%) had 5–19 years of experience, and 93 (38%) had over 10 years of experience. Thirty-three respondents worked in public dental clinics, whereas 212 (86.53%) worked in the private sector. Table 1 shows the distribution of respondents according to gender, work sector, and years of experience.

Composite was the preferred material for direct posterior restorations, with 83.7% using it for small-size one- or two-surface cavities and 60.4% for large cavities involving three or more tooth surfaces. It was commonly used for patients with parafunctional activity (60%), poor oral hygiene (78%), and cavities with subgingival margins (72.2%). Table 2 shows the selection preference of restorative material and placement of composite in special cases according to gender, practice type, and years of experience.

Only 19.6% and 5.3% of practitioners reported beveling occlusal and gingival margins, respectively. Specifications of the cavity preparation for posterior composite restorations are shown in Table 3.

Rubber dam usage was reported by 29.8% of participants. The one-step self-etch adhesive approach was used by 44.9%, and the oblique layering technique was employed by 51%. Around 62% indicated that they exposed a 2 mm composite layer (increment) to light curing for 20 s. Light-emitting diode (LED) curing units were used by 97.55%, and 6.53% regularly assessed their light-curing units with a radiometer. Additional light-curing intervals after removing the metal matrix band were employed by 27.75% of practitioners. For restoring proximal contact with posterior composite restorations, 46.1% used a Tofflemire metal matrix system, whereas 29.8% and 21.63% opted for sectional or preformed circumferential matrix systems, respectively. Table 4 provides an overview of the restorative techniques employed for placing posterior composite restorations based on factors like gender, sector, and experience level.

**DISCUSSION**

The assessment of trends in posterior composite placement is crucial for the advancement of dental education and practice. This analysis informs curriculum development and continuous dental education and propels research in restorative dentistry. Standardized operative approaches for posterior composites contribute to procedural harmonization, benefiting clinicians and patients through consistent protocols.

The increasing preference for composite materials in posterior teeth restorations reflects a significant shift driven by material advancements, heightened esthetic expectations, and a preference for minimally invasive treatments. In this study, composite resin emerged as the predominant choice, aligning with global trends reported in studies from various countries.<sup>[7,19,28-31]</sup>

Composite restorations have shown favorable performance in posterior teeth, with 1%–3% annual

**Table 1: Distribution of respondents according to gender, work sector, and years of experience**

Gender	Sector				Years of experience						Total
	Public		Private		0–5 years		6–9 years		More than 10 years		
	Number	%	Number	%	Number	%	Number	%	Number	%	
Male	19	20.2	75	79.8	15	16	33	35.1	46	48.9	94 (38.36)
Female	14	9.3	137	90.7	37	24.5	67	44.4	47	31.1	151 (61.63)
	33	13.5	212	86.5	52	21.22	100	40.81	93	37.96	245

**Table 2: The selection preference of restorative material and placement of composite in special cases according to gender, practice type, and years of experience**

Questions	Gender		Practice sector		Years of experience			P value		
	Male	Female	Public	Private	0-5 years	6-9 years	>10 years			
Which material do you use in a posterior small cavity (one or two surfaces)?	Amalgam	40 (16.3%)	27 (28.7)	13 (8.6)	10 (30.3)	30 (14.2)	5 (9.6)	27 (27.0)	8 (8.6)	0.001
	Composite RMGI	205 (83.7%)	67 (71.3)	138 (91.4)	23 (69.7)	182 (85.8)	0	47 (90.4)	73 (73.0)	
Which material do you often use in a posterior large cavity (three or more surfaces)?	Amalgam	95 (38.7%)	54 (57.4)	41 (27.2)	15 (45.5)	80 (37.7)	14 (29.9)	41 (41.0)	40 (43.0)	0.586
	Composite Indirect Restoration	148 (60.4%)	40 (42.6)	108 (71.5)	18 (54.5)	130 (61.3)	2 (0.9)	38 (73.1)	57 (57.0)	
Do you often place direct posterior composite restorations in patients with oral parafunctional activity?	Yes	147 (60%)	52 (55.3)	95 (62.9)	11 (33.3)	136 (64.2)	32 (61.5)	81 (81.0)	34 (36.6)	0.001
	No	98 (40%)	42 (44.7)	56 (37.1)	22 (66.7)	76 (35.8)	20 (38.5)	19 (19.0)	59 (63.4)	
Do you often place direct posterior composite restorations in patients with poor oral hygiene?	Yes	191 (78%)	45 (47.9)	146 (96.7)	16 (48.5)	175 (82.5)	50 (96.2)	84 (84.0)	57 (31.3)	<0.001
	No	54 (22%)	49 (52.1)	5 (3.3)	17 (51.5)	37 (17.5)	2 (3.8)	16 (16.0)	36 (38.7)	
Do you often place direct posterior composite restorations in posterior cavities with 1-2mm subgingival margins?	Yes	177 (72.2%)	46 (78.9)	131 (86.8)	16 (48.5)	161 (75.9)	41 (78.8)	87 (87.0)	49 (52.7)	0.001
	No	68 (27.8%)	48 (51.1)	20 (13.2)	17 (51.5)	51 (24.1)	11 (21.2)	13 (13.0)	44 (47.3)	

**Table 3: Comparison between dental practitioners according to gender, workplace, and experience about the specifications of the cavity preparation for posterior composite restorations**

Questions	Gender		Practice sector		Years of experience			P value		
	Male	Female	Public	Private	0-5 years	6-9 years	>10 years			
Do you bevel the occlusal margins of the cavity?	Yes	48 (19.6%)	20 (21.3)	28 (18.5)	10 (30.3)	38 (17.9)	20 (38.5)	21 (21.0)	7 (7.5)	0.001
	No	197 (80.4%)	74 (78.7)	123 (81.5)	23 (69.7)	174 (82.1)	32 (61.5)	74 (74.0)	86 (92.5)	
Do you bevel the gingival margin of the cavity?	Yes	13 (5.3%)	2 (2.1)	11 (7.3)	5 (15.2)	8 (3.8)	7 (13.5)	4 (4.0)	2 (2.2)	0.021
	No	232 (94.7%)	92 (97.9)	140 (92.7)	28 (84.8)	204 (96.2)	45 (86.5)	96 (96.0)	91 (97.8)	

**Table 4: Comparison between dental practitioners according to gender, workplace, and experience about the restorative technique applied during the placement of posterior composite restorations**

Questions	Gender		Practice sector		Years of experience			P value
	Male	Female	Public	Private	0–5 years	6–9 years	>10 years	
How often do you achieve the operative field isolation?	73 (29.8%) 172 (70.2%)	42 (27.8) 109 (72.2)	6 (18.2) 27 (81.8)	67 (31.6) 145 (68.4)	14 (26.9) 38 (73.1)	30 (30) 70 (70)	29 (31.2) 64 (68.8)	0.864
Which adhesive strategy do you use more often?	0 76 (31%)	0 (0) 46 (30.5)	0 (0) 17 (51.5)	0 (0) 59 (27.8)	0 (0) 8 (15.4)	0 (0) 53 (53)	0 (0) 15 (16.1)	
	110 (44.9%) 14 (5.7%) 45 (18.4%)	65 (43) 12 (7.9)	0 (0) 0 (0)	94 (44.3) 14 (6.6)	26 (50) 4 (7.7)	25 (25) 7 (7)	59 (63.4) 3 (3.2)	
Which placement technique do you often apply for the placement of composite restorations?	43 (17.5%) 125 (51%) 77 (31.5%)	28 (18.5) 20 (13.2) 86 (57)	0 (0) 12 (36.4) 4 (12.1)	45 (21.2) 32 (15.1) 120 (56.6)	14 (26.9) 19 (36.5) 27 (51.9)	15 (15) 14 (14) 51 (51)	16 (17.2) 11 (11.8) 46 (49.5)	<0.001
	32 (34%) 4 (4.3) 90 (95.7)	45 (29.8) 2 (1.3) 149 (98.7)	17 (51.5) 5 (15.2) 28 (84.8)	60 (28.3) 1 (0.5) 211 (99.5)	6 (11.5) 0 (0) 52 (100)	35 (35) 1 (1) 99 (99)	36 (38.7) 5 (5.4) 88 (94.6)	<0.001
Which light-curing unit do you often use to light-cure posterior restorations?	0 (0) 6 (2.45%) 239 (97.6%)	0 (0) 2 (1.3) 149 (98.7)	0 (0) 28 (84.8) 0 (0)	0 (0) 1 (0.5) 211 (99.5)	0 (0) 0 (0) 0 (0)	0 (0) 0 (0) 0 (0)	0 (0) 5 (5.4) 88 (94.6)	0.108
Do you regularly monitor the output of the light-curing unit with a radiometer?	16 (6.53) 229 (93.5%)	8 (5.3) 143 (94.7)	2 (6.1) 31 (93.9)	14 (6.6) 188 (88.7)	4 (7.7) 48 (92.3)	9 (9) 91 (91)	3 (3.2) 90 (96.8)	0.222
How long do you light-cure composite increments of 2mm thickness?	0 7 (2.9%) 151 (61.6%) 87 (35.5%)	0 (0) 5 (3.3) 99 (65.6) 47 (31.1)	0 (0) 2 (6.1) 2 (6.1)	0 (0) 5 (2.4) 149 (70.3)	0 (0) 2 (3.8) 26 (50)	0 (0) 3 (3) 47 (47)	0 (0) 2 (2.2) 78 (83.9)	<0.001
For class II composite restorations, after removal of the matrix band, do you often perform additional light-curing from the buccal and lingual directions?	68 (27.7%) 177 (72.3%)	32 (21.2) 119 (78.8)	20 (60.6) 13 (39.4)	48 (22.6) 164 (77.4)	16 (30.8) 36 (69.2)	24 (24) 76 (76)	28 (30.1) 65 (69.9)	0.550
Which matrix system do you often use to restore the proximal contact with composite restoration?	74 (30.2) 114 (46.5) 53 (21.6)	47 (31.1) 80 (53) 21 (13.9)	3 (9.1) 25 (75.8) 5 (15.2)	71 (33.5) 89 (42) 48 (22.6)	12 (23.1) 21 (40.4) 17 (32.7)	42 (42) 37 (37) 20 (20)	20 (21.5) 56 (60.2) 16 (17.2)	
LED = light-emitting diode QTH = quartz–tungsten–halogen	4 (1.6)	3 (2)	0 (0)	4 (1.9)	2 (3.8)	1 (1)	1 (1.1)	0.002

failure rates.<sup>[11,32,33]</sup> However, the risk of failure increases with restoration size, number of restored surfaces, and caries prevalence, making composites less suitable for extensive posterior restorations.<sup>[11,34-36]</sup> Despite this, around 60% of participants in this study chose composite restorations for cavities with three or more surfaces, possibly influenced by aesthetic considerations and the availability of high-quality materials.

Patient-related factors, such as parafunctional habits and oral hygiene status, can influence the durability of composite restorations.<sup>[37-39]</sup> Despite recommendations to avoid composites in patients with parafunctional activity or high caries risk, many practitioners in this study still used them.<sup>[20,34,38-40]</sup> This discrepancy in adherence to evidence-based practices underscores the need for improved awareness and education. Additionally, many respondents did not consider subgingival margins a contraindication for direct composites. Subgingival margins pose challenges due to poor enamel quality, limited access, difficulty placing the rubber dam, and subsequent fluid leakage. Alternative approaches have been proposed, such as deep margin elevation and indirect restorations.<sup>[41]</sup>

Gender played a role in material selection, with more females favoring composites, especially in cases of poor oral hygiene or subgingival margins. Private sector practitioners exhibited greater autonomy in material selection, favoring composite placements in various scenarios. Experience levels also influenced material preferences, with newer and more experienced dentists displaying different selection patterns.

The occlusal and gingival cavosurface angles in posterior composite restorations require careful consideration to ensure optimal outcomes. Avoiding beveling on the occlusal cavosurface angle is crucial to preventing the fracture of thin restoration margins under occlusal loads, reducing the risk of cavosurface margin staining and maintaining marginal integrity.<sup>[42-45]</sup> Similarly, beveling on the gingival cavosurface angle should be avoided, as it may lead to the complete removal of remaining enamel, posing challenges to achieving good marginal adaptation.<sup>[43,45,46]</sup> Many respondents avoid utilizing beveling at the cavosurface angles for posterior cavities, possibly influenced by literature, guidelines, and professional consensus.<sup>[44,46]</sup> Experience levels play a role, with a decrease in beveling utilization as practitioners gain more experience, reflecting the evolution of clinical strategies and priorities throughout their careers.

Proper isolation is crucial for posterior composite restorations, whereas rubber dams are effective,

alternatives like cotton rolls and matrix bands can yield similar survival rates.<sup>[47,48]</sup> Limited patient acceptance, extended appointment durations, and operator preference may contribute to the low adoption of rubber dams.<sup>[49,50]</sup> In the present study, only 29.8% reported using a rubber dam to isolate the operative field, whereas 70.2% opted for cotton rolls and intraoral suction. These findings align with previous studies, which also revealed low rates of rubber dam usage among general dentists.<sup>[18-20,51,52]</sup>

In general, the selection of bonding agents for posterior composites varies among practitioners.<sup>[18,22,23,27,53,54]</sup> One-step self-etch adhesives, despite their drawbacks,<sup>[55]</sup> are preferred by a considerable percentage of respondents, likely due to a trend toward simpler materials. The choice of bonding agents in the present study may reflect the desire for user-friendly materials and techniques.

Various restorative techniques aim to reduce polymerization shrinkage effects. The incremental layering technique, especially oblique layering, is commonly employed, which suggests that a substantial portion of the dentists in the study are well-informed about managing polymerization shrinkage stress.<sup>[56-59]</sup>

Due to the limited depth of cure in composites, a 2mm incremental layering technique is recommended, with a standard 20-s exposure time for curing a light shade to 2–2.5 mm. Challenges in positioning the light guide close to the restoration surface often necessitate extending the exposure time to 40 s for a more thorough cure at all depths.<sup>[60,61]</sup> In our study, 61.6% used a 20-s duration for a 2 mm layer, whereas 35.5% opted for a 40-s cure. Haridy *et al.*<sup>[62]</sup> found that only 25% of the participants used a 40-s time, with 12.8% and 4.5% choosing 30 and 10 s, respectively.

Proper light curing is crucial for the effective polymerization of composites, as inadequate polymerization can adversely affect resin properties. Various light-curing units are available, including quartz–tungsten–halogen (QTH), plasma arc curing, LED, and argon laser. In our study, 97.55% of participants preferred LED units, possibly due to their portability and efficiency, consistent with previous research.<sup>[23,62,63]</sup> This preference contrasts with the findings of Al-Senan *et al.*<sup>[64]</sup> who reported that only 36.9% favored LED units.

Light quality diminishes over time due to heat, bulb deterioration, resin remnants, and sterilization challenges.<sup>[64]</sup> It is crucial to use a radiometer to regularly assess the intensity of a light-curing unit to ensure the quality of restorative procedures. Regular radiometer use to assess light intensity was reported by only 7%, consistent with previous studies.<sup>[23,64,65]</sup>

Extra buccal and lingual light-curing is crucial for complex cases, but 27.7% engage in this practice. This indicates a limited understanding of factors affecting light penetration and effectiveness, contrary to a prior study reporting 65.9% implementing additional light-curing.<sup>[23]</sup>

A suitable matrix system is essential for achieving ideal contact points in proximal composite restorations.<sup>[66]</sup> While circumferential matrix systems, typically preferred for amalgam restorations, may result in flat proximal surfaces and shifting of contact areas when used with composites, employing a sectional matrix band with a separation ring offers a reliable method for achieving desired proximal contacts.<sup>[67]</sup> Our study shows 46.5% using Tofflemire matrices and 21.6% using preformed circumferential matrices. This trend, driven by factors like cost-effectiveness and familiarity, aligns with previous research emphasizing the impact of matrix system choice on composite restoration effectiveness.<sup>[18,23,68]</sup>

Gender differences in dental practices were not observed using rubber dams, light-curing devices, radiometric monitoring, curing duration, adhesive strategies, or sectional matrices. Males favored horizontal layering and preformed circumferential matrices, whereas females preferred oblique layering and Tofflemire matrices.

Private and public sector practitioners differed in the bonding agents they opted for, the filling techniques, and the matrix choices. Private practitioners leaned towards LED units, whereas public practitioners favored bulk-fill and Tofflemire matrices.

Experience levels influenced bonding methods, adhesive choices, layering techniques, and curing durations. Dentists with ten or more years of experience preferred the 20-s cure time and Tofflemire matrices. Dentists with 6–9 years of clinical experience favored sectional matrices and the oblique technique. Dentists with 0–5 years of experience preferred one-step self-etch adhesives and preferred circumferential matrices. However, the experience level did not correlate with variations in the use of additional light-curing from buccal and lingual directions in class II composite restorations.

Caution should be exercised when interpreting this study's findings due to methodological limitations. Being a self-reported questionnaire, responses were subjective and may not accurately reflect respondents' knowledge and practices. Additionally, the 69.8% response rate may limit the generalizability to all Palestinian dentists. Future studies should prioritize larger sample sizes to

enhance statistical robustness and overcome response rate limitations. Despite these constraints, this study serves as an initial exploration, laying the groundwork for more comprehensive investigations. Therefore, while valuable as a starting point, caution is advised when extrapolating its findings to a broader context.

## CONCLUSION

The study underscores the need for Palestinian dental professionals to reassess and update their clinical approaches in placing composite restorations in posterior teeth. The findings highlight the influence of gender, work sector, and years of experience on practitioners' choices, emphasizing the importance of tailored continuing education programs to enhance clinical practices.

## ACKNOWLEDGEMENT

Not applicable.

## FINANCIAL SUPPORT AND SPONSORSHIP

Nil.

## CONFLICTS OF INTEREST

There are no conflicts of interest.

## AUTHORS CONTRIBUTIONS

All Authors have contributed equally in presented research.

## ETHICAL POLICY AND INSTITUTIONAL REVIEW BOARD STATEMENT

Ethical approval was obtained from the Institutional Review Board at the Arab American University, Palestine (2022/A/1/N).

## PATIENT DECLARATION OF CONSENT

Not applicable.

## DATA AVAILABILITY STATEMENT

Not applicable.

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