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Original Article

Assessment of Knowledge and Clinical Practices Related to Provisional Fixed Dental Prostheses among Dentists in Saudi Arabia: A Cross-Sectional Survey

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ABSTRACT

Dental abutments prepared for fixed prostheses encounter multiple forms of intraoral aggression. Safeguarding the dentition, pulpal tissues, and periodontal apparatus, therefore, necessitates the use of provisional restorations. The present investigation sought to gauge the level of understanding and everyday practice patterns surrounding provisional fixed dental prostheses (PFDPs) among dental clinicians working in Saudi Arabia. A cross-sectional online self-completion questionnaire captured responses from 312 dentists (general dental practitioners and specialty-trained clinicians) distributed across Saudi Arabia. The instrument examined clinical understanding through 11 questions and practice behaviors through a further 9 questions, both centered on PFDPs. Analytical procedures covered descriptive summaries, chi-square testing, and multivariable logistic regression. Sufficient understanding of PFDPs was evident in just 46.5% of the sample. Specialty-trained clinicians outperformed general dentists on knowledge scores (57.4% vs. 41.7%, $p = 0.011$) and demonstrated greater awareness of how PFDPs influence eventual treatment success. Regarding practice behaviors, although 94.2% of the sample reported routinely delivering PFDPs, only 66.0% indicated doing so on every occasion. In addition, PFDP disinfection was seldom or never carried out by 21.2% of dentists. Custom-fabricated PFDP adoption was more pronounced among public-sector practitioners and specialists. Notable knowledge gaps were identified in the domain of fabrication materials and armamentarium, most notably in CAD/CAM workflows. Notwithstanding the finding that most Saudi dentists issued PFDPs to individuals under their care, substantial knowledge gaps remain, particularly regarding manufacturing materials and procedural methods. Focused educational efforts, particularly aimed at the general dentist workforce, appear necessary to improve therapeutic outcomes.

Keywords: Provisional fixed dental prostheses, Dental practitioners, Knowledge, Clinical practice, Saudi Arabia

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Introduction

Within the broader sequence of dental interventions, the temporization stage stands as a determinant of procedural success or failure. Protecting freshly prepared tooth structure from the array of insults in the mouth is a daily clinical imperative. The intraoral milieu harbors multiple threats—mechanical, thermal, osmotic, and microbial. Provisional restorations constitute an indispensable measure to shield the dentition, pulp, and investing tissues [1-5].

Provisional Fixed Dental Prostheses (PFDPs) denote fixed appliances engineered to deliver enhanced esthetics, stabilization, and/or masticatory capability over a bounded interval, after which definitive prosthetic replacements are inserted [6]. These interim appliances serve to cover the prepared abutment tooth,

its pulp, and the surrounding periodontal structures, uphold occlusal function, avert supra-eruption and migratory shifts, and restore appearance from the moment of tooth reduction until delivery of the final prosthesis. Descriptors such as interim, transitional, or temporary restoration are applied interchangeably in the literature to connote provisional restorations. Disturbingly, some clinicians elect to omit this essential phase from their procedural armamentarium. As a result, voices have emerged underscoring the imperative of delivering PFDPs to safeguard native dental hard tissues [7].

PFDPs used during complete or partial coverage prosthetic rehabilitation are constructed using disparate material systems and fabrication approaches. Procedural methods span direct, indirect, and combined indirect–direct modalities [8]. The caliber and durability of the interim solution hinge on the operator's underlying knowledge base, treatment philosophy, and technical dexterity [9]. The intraoperative workflow enacted by dental clinicians encompasses numerous variables, among them patient diagnostic workup and therapeutic blueprinting, cosmetic appraisal, and oversight of patients' home-care hygiene. A decision to bypass temporization can trigger an array of untoward sequelae, ranging from postoperative thermal sensitivity and tooth migration to supra-eruption and outright pulpal demise. The patent dentinal tubules that result from tooth reduction pose a significant challenge, constituting conduits through which microorganisms can ingress and readily access the pulpal chamber. One systematic review exploring determinants of pulpal and periapical necrosis after indirect restorative procedures identified multiple contributory factors, notably temporization duration, the type of provisional luting agent selected, and the operator's stage of professional training [10].

The body of literature examining dental professionals' awareness, attitudes, and practice behaviors regarding interim restorations remains notably sparse. Indeed, the single investigation we were able to retrieve enrolled no more than 100 subjects [11]. Motivated by this dearth of evidence, the present project was undertaken to appraise what dental professionals practicing in Saudi Arabia know and do regarding the use of provisional fixed dental prostheses (PFDPs). The insights generated stand to equip institutional policymakers and decision-makers within the dental education and service delivery sectors with the evidence base needed to design targeted initiatives that bolster clinicians' PFDP-related understanding and procedural competence, thereby exerting a downstream impact on the availability and quality of PFDP care delivered to the patient population.

Materials and Methods

Study design

A cross-sectional, internet-based, self-completion survey was conducted between February and mid-April 2021 among dental practitioners in Saudi Arabia. The study population comprised both general dentists and specialists, although specialists were not stratified by area of expertise. The survey instrument was developed with input from subject-matter experts. An initial pilot test was administered to 10 individuals, after which four specialists in the discipline provided their expert feedback. The final questionnaire, built using Google Forms, was circulated electronically. The investigation relied on a convenience sampling strategy. The questionnaire was disseminated through social networking channels such as WhatsApp and Facebook, as well as email.

Ethical considerations

Enrollment in the study was entirely voluntary, and all participants gave their informed consent via the survey interface before accessing the questionnaire items. Respondents' anonymity was ensured throughout the data collection phase. Individuals who did not submit a fully completed survey form received a single reminder. Participants retained the freedom to discontinue their involvement at any point during the investigation. No form of remuneration was provided for taking part. Ethical clearance for this research was granted by the Research Committee of the College of Dentistry, Dar Al Uloom University, Saudi Arabia (COD/IRB/2022/3).

Sample

The study recruited dental professionals (general practitioners and specialists from a range of disciplines) practicing in Saudi Arabia **(Table 1).** Individuals still undergoing dental training were excluded. The survey instrument was configured so that submissions were possible only for fully completed forms.

Measures

Knowledge about PFDPs

Understanding of PFDPs was evaluated using an 11-question battery. Respondents were first asked to indicate whether, in their view, PFDP is invariably required following FDP preparation. Subsequently, five questions addressing the clinical dimensions of

PFDPs were posed. A further five items focused primarily on the materials and armamentarium used to craft PFDPs. For the majority of the questions, the permissible response options were 'yes,' 'no,' or 'do not know.'

Sufficient knowledge was operationally defined as providing correct answers to ≥ 60% (i.e., ≥ 7 of the 11) of the knowledge questions presented in **Table 2**, a threshold aligned with cognitive assessment paradigms and established standards for validating cut-off scores within educational testing contexts [12, 13].

Practice of PFDPs

Clinical practice behaviors about PFDPs were assessed through a set of 9 questions. Participants were initially queried on the frequency with which they delivered PFDPs upon completing tooth preparation. Six subsequent items explored their everyday clinical conduct regarding PFDPs. The remaining two questions probed PFDPs' perceived success rates in their own clinical experience.

Exploratory variables

Sociodemographic characteristics captured included gender, practice setting (private/public), duration of professional experience, and level of qualification.

Statistical analysis

Descriptive univariate analyses were performed, with results expressed as percentages and frequencies for each survey item. The primary study endpoints comprised PFDP knowledge and practice. Bivariate analyses examining associations between the main endpoints and influencing factors were conducted using the chi-squared test for trend for ordinal variables and the standard chi-squared test for categorical variables. A multivariate binary logistic regression model was constructed to identify independent predictors of participants' PFDP knowledge. The factors evaluated as candidate predictors included: gender, practice setting, professional experience, and qualification level. All statistical computations were executed using IBM SPSS Statistics version 25.0 (IBM Corp. Released 2017. IBM SPSS Statistics for Windows, Version 25.0. IBM Corp, Armonk, NY, USA). The threshold for statistical significance was established at $P < 0.05$.

Results and Discussion

A total of 312 practicing dentists in Saudi Arabia were included in this study. The largest share of participants fell within the 20–30-year age range (62.8%), were male (65.1%), and held Saudi nationality (77.9%). Employment was nearly evenly split between the public (51.6%) and private (48.4%) sectors. The predominant portion reported 1–10 years of clinical experience (76.9%) and worked as general dental practitioners (69.9%), while 51.0% practiced in the central region of Saudi Arabia. Exhaustive demographic data are provided in **Table 1**.

An evaluation of knowledge regarding provisional fixed dental prostheses (PFDPs) was conducted in **Table 2**, where correct response rates varied widely. Nearly all participants correctly identified that PFDPs demand good marginal fit, proper contour, and a smooth surface (95.5%) and that they serve a role in testing occlusal and phonetic function (92.3%). On the other hand, only 9.9% recognized that PMMA-based CAD/CAM-fabricated PFDPs do not possess higher fracture strength than directly fabricated PFDPs, and a mere 16.3% knew that PMMA-based PFDPs do not furnish superior wear resistance over composite-based PFDPs. Across the board, 46.5% of respondents met the threshold for adequate knowledge (≥ 60% correct answers per Bloom *et al.* [12] cut-off). Possession of adequate knowledge was significantly associated with qualification ($P = 0.011$), with a higher rate among specialist dentists (57.4%) than among general dental practitioners (41.7%). Dentists in the public sector outperformed their private-sector counterparts on multiple items (e.g., 84.5% versus 72.2% on the mandatory nature of PFDPs; $P = 0.008$). Those with > 10 years of experience achieved higher correct response rates on technical items, including CAD/CAM PFDP longevity (68.1% versus 54.6%, $P = 0.042$) and PMMA-based PFDP wear resistance (25.0% versus 13.8%, $P = 0.024$).

In multivariate logistic regression analysis **(Table 3),** qualification emerged as the single significant predictor of adequate PFDP knowledge, with specialist dentists having a greater likelihood of possessing adequate knowledge than general dental practitioners (OR = 2.35, 95% CI: 1.23–4.49, $P = 0.010$).

Clinical practices surrounding PFDPs, detailed in **Table 4**, indicated that 94.2% of dentists frequently (always: 66.0%; often: 28.2%) delivered PFDPs after tooth preparation, with this practice being more frequent among female dentists (75.2% always versus 61.1% for males, $p = 0.041$) and those in the public sector (73.3% always versus 58.3% for private, $P = 0.019$). Custom-made PFDPs were the dominant fabrication modality (73.4%) compared with preformed/prefabricated alternatives (23.7%), and their use was higher among public sector dentists (80.1% versus 66.2%, $P = 0.020$) and specialists (83.0% versus

69.3%, P = 0.009). Within the subset employing custom-made PFDPs, the direct technique prevailed (49.4%), followed by the direct-indirect (34.6%) and indirect (16.0%) approaches. Technique preference varied by qualification (P = 0.006): general dental practitioners preferred the indirect technique (19.7% versus 7.4%), whereas specialists preferred the direct–indirect method (44.7% versus 30.3%). Putty consistency elastomeric impression material constituted the chief means of creating indices for custom-made PFDPs (83.2%), with uptake being greater among dentists with 1–10 years of experience (87.4% versus 69.4% for > 10 years, P = 0.002) and general dental practitioners (84.7% versus 79.8%, P = 0.019). Study casts were regularly utilized (always: 31.1%; often: 34.3%) for putty index fabrication by 65.4% of the sample, a practice more frequent among those with 1–10 years of experience (67.5% versus 58.4% for > 10 years, P = 0.032) and general dental practitioners (67.0% versus 61.7% for specialists, P = 0.020). In contrast, 21.5% produced indices directly inside the mouth, and 12.5% rarely or never relied on study casts. The great majority of dentists (71.8%) rarely or never used all-metal PFDPs, with 22.4% using them occasionally. Disinfection of PFDPs before cementation was a routine step (always: 61.9%), though 21.2% rarely or never performed disinfection. Cementation failure was reported by 51.6% as occurring occasionally, while 44.9% stated it rarely or never occurred. The most commonly reported PFDP lifespan was 2–3 weeks (55.1%), with longer service periods (1 month or ≥ 2 months) reported more often by public sector dentists (24.2% and 11.8% versus 7.3% and 8.6%, P < 0.001) and specialist dentists (23.4% and 16.0% versus 12.8% and 7.8%, P = 0.007).

Table 1. Characteristics of participants (n = 312).

Demographic variable	Category	Percentage	Number
Age group	20–30 years	62.8%	196
	31–40 years	24.0%	75
	Above 40 years	13.1%	41
Gender distribution	Male	65.1%	203
	Female	34.9%	109
Nationality	Saudi	77.9%	243
	Non-Saudi	22.1%	69
Employment sector	Public sector	51.6%	161
	Private sector	48.4%	151
Clinical experience	1–10 years	76.9%	240
	More than 10 years	23.1%	72
Qualification level	General dental practitioner	69.9%	218
	Specialist dentist	30.1%	94
Practice location in Saudi Arabia	Northern Region	6.7%	21
	Central Region	51.0%	159
	Southern Region	11.9%	37
	Eastern Region	10.9%	34
	Western Region	19.6%	61

Table 2. Participants' responses to questions about their knowledge of PFDPs, categorized by gender, work sector, clinical experience, and qualification.

Statement	Overall (n = 312)	1–10 years (n = 240)	> 10 years (n = 72)	P-value	GP (n = 218)	SP (n = 94)	Male (n = 203)	Female (n = 109)	P-value	Public (n = 161)	Private (n = 151)	P-value
PFDP is always required after FDP preparation	78.5%	80.0%	73.6%	0.247	74.8%	87.2%	78.3%	78.9%	0.906	84.5%	72.2%	0.008*
FDP outcome is affected by PFDP	48.4%	47.5%	51.4%	0.563	42.2%	62.8%	49.3%	46.8%	0.677	57.8%	38.4%	0.001*
PFDP allows evaluation of occlusion and phonetic changes	92.3%	91.7%	94.4%	0.438	91.3%	94.7%	93.1%	90.8%	0.472	95.7%	88.7%	0.022*

PFDP prevents the drifting of adjacent teeth after preparation	82.7%	81.7%	86.1%	0.382	79.8%	89.4%	82.3%	83.5%	0.786	87.6%	77.5%	0.019*
PFDP reduces post-treatment sensitivity in prepared teeth	85.9%	86.7%	83.3%	0.476	85.8%	86.2%	85.2%	87.2%	0.640	86.3%	85.4%	0.818
PFDP should exhibit proper contour, marginal fit, and smooth surface	95.5%	94.6%	98.6%	0.148	94.0%	98.9%	94.6%	97.2%	0.278	98.1%	92.7%	0.021*
Methyl methacrylate should not be directly used intraorally for PFDP fabrication	28.8%	29.2%	27.8%	0.820	28.4%	29.8%	24.1%	37.6%	0.012*	26.1%	31.8%	0.267
CAD/CAM PFDPs demonstrate greater longevity than conventional PFDPs	57.7%	54.6%	68.1%	0.042*	53.2%	68.1%	60.6%	52.3%	0.157	59.6%	55.6%	0.475
PFDP design should be aesthetically tailored to the patient	27.9%	30.8%	18.1%	0.034*	33.0%	16.0%	28.6%	26.6%	0.712	18.6%	37.7%	< 0.001*
PMMA-based PFDPs do not outperform composite-based PFDPs in wear resistance	16.3%	13.8%	25.0%	0.024*	11.5%	27.7%	18.2%	12.8%	0.220	17.4%	15.2%	0.606
CAD/CAM PMMA PFDPs do not show superior fracture strength compared to direct PFDPs	9.9%	9.6%	11.1%	0.704	9.2%	11.7%	9.9%	10.1%	0.946	11.8%	7.9%	0.255

Abbreviations: GP = General dental practitioner, SP = Specialist dentist, PFDP = Provisional fixed dental prosthesis, FDP = Fixed dental prosthesis, PMMA = Polymethyl methacrylate. Participants were classified as having adequate knowledge if they correctly answered ≥ 60% of the listed questions, and as having poor knowledge if their score was < 60% (Bloom *et al*. [12] cut-off point for knowledge categorization). Denotes significant difference at $P < 0.05$ as indicated by chi-square statistics.

Table 3. Factors associated with participants' adequate knowledge of provisional fixed dental prosthesis.

Predictor variable	Category	P-value	Odds ratio (95% CI)
Gender	Male	—	Reference
	Female	0.212	1.35 (0.84–2.18)
Work sector	Public	—	Reference
	Private	0.897	0.97 (0.61–1.55)
Clinical experience (years)	1–10 years	—	Reference
	More than 10 years	0.333	0.71 (0.35–1.42)
Qualification level	General dental practitioner	—	Reference
	Specialist dentist	0.010*	2.35 (1.23–4.49)

Abbreviations: PFDP = Provisional fixed dental prosthesis; A multivariate binary logistic model calculated the odds ratio and 95% confidence interval. Significance in this analysis was defined at $P < 0.05$.

Table 4. Participants' responses to questions about their clinical practice with PFDPs were categorized by gender, work sector, clinical experience, and qualification.

1. Frequency of placing PFDPs after completing tooth preparation													
Response	**1–10 yrs (n = 240)**	**> 10 yrs (n = 72)**	**P**	**GP (n = 218)**	**SP (n = 94)**	**P**	**Total sample (n = 312)**	**Male (n = 203)**	**Female (n = 109)**	**P**	**Public (n = 161)**	**Private (n = 151)**	**P**
Always	68.8%	56.9%		63.8%	71.3%		66.0%	61.1%	75.2%		73.3%	58.3%	
Often	25.0%	38.9%	0.068	28.9%	26.6%	0.151	28.2%	32.5%	20.2%	0.041 *	21.7%	35.1%	0.019 *
Rare/Never	6.3%	4.2%		7.3%	2.1%		5.8%	6.4%	4.6%		5.0%	6.6%	
2. Preferred method for fabricating PFDPs													
Response	**1–10 yrs**	**> 10 yrs**	**P**	**GP**	**SP**	**P**	**Total**	**Male**	**Female**	**P**	**Public**	**Private**	**P**
Preformed/Prefabricated	25.4%	18.1%		28.4%	12.8%		23.7%	25.1%	21.1%		17.4%	30.5%	
Custom made	71.7%	79.2%	0.429	69.3%	83.0%	0.009 *	73.4%	72.4%	75.2%	0.632	80.1%	66.2%	0.020 *
Both	2.9%	2.8%		2.3%	4.3%		2.9%	2.5%	3.7%		2.5%	3.3%	
3. Technique used for custom-made PFDP fabrication													
Response	**1–10 yrs**	**> 10 yrs**	**P**	**GP**	**SP**	**P**	**Total**	**Male**	**Female**	**P**	**Public**	**Private**	**P**
Direct technique	48.3%	52.8%		50.0%	47.9%		49.4%	53.7%	41.3%		52.8%	45.7%	
Indirect technique	17.9%	9.7%	0.251	19.7%	7.4%	0.006 *	16.0%	13.8%	20.2%	0.092	12.4%	19.9%	0.174
Direct–indirect technique	33.8%	37.5%		30.3%	44.7%		34.6%	32.5%	38.5%		34.8%	34.4%	
4. Method used to fabricate an index for PFDPs (custom-made cases)													
Response	**1–10 yrs**	**> 10 yrs**	**P**	**GP**	**SP**	**P**	**Total**	**Male**	**Female**	**P**	**Public**	**Private**	**P**
Putty consistency elastomeric material	87.4%	69.4%		84.7%	79.8%		83.2%	79.7%	89.8%		84.4%	82.0%	
Vacuum-formed thermoplastic sheet	4.6%	13.9%		5.6%	9.6%		6.8%	7.9%	4.6%		6.9%	6.7%	
Alginate impression material	5.0%	8.3%	0.002 *	6.5%	4.3%	0.019 *	5.8%	7.4%	2.8%	0.149	4.4%	7.3%	0.683
No index (freehand/indirect)	2.5%	4.2%		3.2%	2.1%		2.9%	3.0%	2.8%		2.5%	3.3%	
Other methods	0.4%	4.2%		0.0%	4.3%		1.3%	2.0%	0.0%		1.9%	0.7%	
5. Use of the study cast for making the putty index in PFDP fabrication													
Response	**1–10 yrs**	**> 10 yrs**	**P**	**GP**	**SP**	**P**	**Total**	**Male**	**Female**	**P**	**Public**	**Private**	**P**
Always	35.0%	18.1%		35.3%	21.3%		31.1%	29.1%	34.9%		31.7%	30.5%	
Often	32.5%	40.3%		31.7%	40.4%		34.3%	38.9%	25.7%		39.1%	29.1%	
Rare/Never	10.4%	19.4%	0.032 *	11.0%	16.0%	0.020 *	12.5%	13.8%	10.1%	0.058	9.3%	15.9%	0.087
Intraoral fabrication	21.7%	20.8%		22.0%	20.2%		21.5%	17.7%	28.4%		18.6%	24.5%	
Other	0.4%	1.4%		0.0%	2.1%		0.6%	0.5%	0.9%		1.2%	0.0%	
6. Use of all-metal PFDPs (stainless steel or aluminum crowns)													
Response	**1–10 yrs**	**> 10 yrs**	**P**	**GP**	**SP**	**P**	**Total**	**Male**	**Female**	**P**	**Public**	**Private**	**P**
Always	5.4%	6.9%	0.838	6.0%	5.3%	0.916	5.8%	3.9%	9.2%	0.099	5.6%	6.0%	0.989

Sometimes	22.1%	23.6%		22.9%	21.3%		22.4%	24.6%	18.3%		22.4%	22.5%	
Rare/Never	72.5%	69.4%		71.1%	73.4%		71.8%	71.4%	72.5%		72.0%	71.5%	
7. Disinfection of PFDPs before intraoral placement													
Response	**1–10 yrs**	**> 10 yrs**	**P**	**GP**	**SP**	**P**	**Total**	**Male**	**Female**	**P**	**Public**	**Private**	**P**
Always	60.8%	65.3%		58.7%	69.1%		61.9%	59.1%	67.0%		64.6%	58.9%	
Sometimes	16.7%	18.1%	0.568	18.8%	12.8%	0.205	17.0%	19.2%	12.8%	0.290	14.9%	19.2%	0.517
Rare/Never	22.5%	16.7%		22.5%	18.1%		21.2%	21.7%	20.2%		20.5%	21.9%	
8. Frequency of cementation failure in PFPDs													
Response	**1–10 yrs**	**> 10 yrs**	**P**	**GP**	**SP**	**P**	**Total**	**Male**	**Female**	**P**	**Public**	**Private**	**P**
Always	4.6%	0.0%		4.6%	1.1%		3.5%	3.4%	3.7%		1.2%	6.0%	
Sometimes	49.6%	58.3%	0.114	50.9%	53.2%	0.301	51.6%	54.2%	46.8%	0.455	52.2%	51.0%	0.076
Rare/Never	45.8%	41.7%		44.5%	45.7%		44.9%	42.4%	49.5%		46.6%	43.0%	
9. Usual longevity of provisional prosthesis in the mouth													
Response	**1–10 yrs**	**> 10 yrs**	**P**	**GP**	**SP**	**P**	**Total**	**Male**	**Female**	**P**	**Public**	**Private**	**P**
≤ 1 week	19.6%	15.3%		20.6%	13.8%		18.6%	19.2%	17.4%		12.4%	25.2%	
2–3 weeks	56.7%	50.0%	0.263	58.7%	46.8%	0.007 *	55.1%	53.2%	58.7%	0.645	51.6%	58.9%	< 0.001 *
1 month	15.0%	19.4%		12.8%	23.4%		16.0%	17.7%	12.8%		24.2%	7.3%	
≥ 2 months	8.8%	15.3%		7.8%	16.0%		10.3%	9.9%	11.0%		11.8%	8.6%	

Abbreviations: GP = General dental practitioner, SP = Specialist dentist, PFDP = Provisional fixed dental prosthesis, FDP = Fixed dental prosthesis, PMMA = Polymethyl methacrylate; Denotes significant difference at $P < 0.05$ as indicated by chi-square statistics.

Preparations for indirect restorative work, particularly for fixed dental prostheses, frequently leave vital tooth substrate unprotected from the intraoral milieu for extended periods. This situation can lead to adverse events, including dentinal hypersensitivity, pulpal devitalization, drifting, and loss of gingival architecture. Accordingly, interim restorations are regarded as an indispensable measure for the short-term safeguarding of the tooth and its attachment apparatus [14]. Our investigation was designed to evaluate levels of awareness and clinical practice behaviors regarding PFDPs among dental professionals in Saudi Arabia.

The data emerging from the present work reveal that merely 46.5% of those surveyed attained a satisfactory level of PFDP-related awareness, with performance varying considerably across the different domains of PFDP knowledge. Echoing observations from an Indian study, 78 percent of our sample concurred that PFDPs are invariably required once tooth preparation for an FDP has been completed [10]. Yet no more than 48% of respondents acknowledged that the ultimate fate—success or failure—of an FDP is shaped by the PFDP stage, thereby indicating a failure to appreciate the role of PFDPs as a pivotal step in securing predictable success across both functional and esthetic dimensions of fixed prosthodontic treatment. This gap may stem from the generally low levels of knowledge recorded. Specialists were significantly more likely than general dentists both to assert that PFDP is always compulsory following FDP preparation and to recognize that FDP outcomes are contingent upon the PFDP phase. A plausible explanation is that specialists tend to participate more frequently in continuing professional development activities and practical workshops, leading to a stronger knowledge base relative to their generalist colleagues—an inference borne out by their superior performance on PFDP knowledge measures.

PFDPs shield the prepared tooth surface from hypersensitivity, prevent migration of adjacent teeth into the edentulous space, and act as a template for establishing appropriate occlusal relationships, phonetics, and appearance [15]. Most of our respondents had adequate insight into these clinical functions, with specialists and public-sector employees outpacing general dentists and private-sector practitioners. An earlier study spanning Saudi Arabia and Egypt similarly reported that the majority of participants utilized the PFDP as a diagnostic mock-up to attain predictable functional and esthetic success. Finishing and polishing PFDPs is critical for maximizing both the function and the esthetics of the definitive prosthesis; the process ensures that the

restoration closely mimics natural tooth anatomy in terms of form, shade, and emergence profile, thereby elevating the overall result. Consistent with another Saudi Arabian report, the overwhelming majority of our participants (95.5%) agreed that PFDPs ought to exhibit precise marginal adaptation, anatomically appropriate contour, and a polished surface [16].

Predictably, specialist practitioners in our sample displayed markedly superior knowledge levels when contrasted with general dentists. A particularly noteworthy finding is the pronounced discrepancy between familiarity with the clinical application of PFDPs and awareness of the materials and equipment employed during their fabrication. This pattern held for both generalists and specialists alike. Although clinical knowledge regarding PFDPs was generally high, awareness of fabrication materials lagged considerably; nonetheless, specialists outperformed general dental practitioners in both domains. A reasonable interpretation might be that specialists engage with continuing education programs, hands-on training events, and professional conferences more regularly than their generalist peers.

Familiarity with contemporary materials and the armamentarium used for PFDP construction can help clinicians select the most suitable options, thereby optimizing therapeutic outcomes. This consideration is especially salient given the transformative improvements in treatment outcomes enabled by the adoption of digital workflows in dentistry [17]. Although specialists and public-sector dentists held a relative advantage over their counterparts in this domain, the overall level of awareness remained, regrettably, deficient. These observations suggest that dental educational institutions should expand the training and instruction devoted to the materials and instrumentation used in PFDP fabrication. Attaining this goal could involve integrating additional theoretical content within dental materials curricula during undergraduate programs, coupled with continuing education initiatives and practical workshops that address both the conceptual and the hands-on, clinical facets of PFDP provision.

Our data indicate that just 66 percent of respondents consistently supply PFDPs to individuals under their care, while roughly 6 percent do so rarely or not at all. By comparison, a separate Saudi Arabian study documented an even lower proportion (45%) of participants who reported providing PFDPs after tooth preparation [18]. This diminished percentage may be attributable to that study's sample composition, which was restricted to dental interns and general practitioners. Similarly, research from Sudan found that over one-third of participating dentists (36%) never delivered PFDPs to their patients, and the majority (two-thirds) did not do so consistently [19]. However, the demographic breakdown in that report did not distinguish between interns, generalists, and specialists. Our findings revealed statistically significant differences in clinical practice behaviors between general dental practitioners and specialists. This disparity may well reflect specialists' greater exposure to workshops, continuing education offerings, and related professional development activities. Furthermore, although we elected not to classify specialists by discipline, it remains plausible that some portion of the specialist cohort came from fields such as prosthodontics, where the daily provision of PFDPs is a more intrinsic component of routine practice.

Our findings show that female practitioners and those employed in the public sector were more likely to deliver PFDPs as part of their clinical routines. Published data indicate differences in practice styles between male and female dentists. Specifically, female dentists have been characterized as more inclined toward a preventive orientation, the application of minimally invasive restorative approaches, and the promotion of prophylactic measures [20]. Public-sector dentists may encounter stronger institutional pressure to comply with standardized clinical protocols than their private-sector counterparts, which could drive their tendency to supply PFDPs to the individuals they treat. Deeper qualitative investigations would yield additional illumination of these observations.

A clear majority of the sample (73.4%) favored custom-fabricated PFDPs over stock, ready-made alternatives, with this preference being especially pronounced among public-sector dentists (80.1%) and specialists (83.0%). Customized provisional restorations are recognized for delivering superior marginal adaptation and esthetics, a characteristic that aligns with their preferential uptake among specialty-trained clinicians [8, 21]. Furthermore, the benchmark and most widely endorsed technique—employing a putty-consistency elastomeric impression material to fabricate an index for PFDP construction—was adopted by the vast majority of respondents (83.2%) in our study [22]. Although 61.9% of participants reported consistently disinfecting PFDPs, no statistically meaningful differences emerged across demographic subgroups. Nevertheless, the finding that 21.2% seldom or never carry out disinfection underscores a distinct opportunity to strengthen infection control practices, as stressed in guidance issued by the ADA and CDC [23].

The stance dental practitioners adopt toward PFDPs is molded by the clinical exposure they receive during their university training and the degree of importance they ascribe to these interim appliances. On numerous occasions, the labels provisional and temporary are employed synonymously in reference to PFDPs. Some clinicians may be predisposed to undervalue the temporization phase because of its transitory nature. Consequently, designating provisional restorations as "temporary" can be deceptive, as this nomenclature downplays their indispensable therapeutic function and strategic role in achieving favorable treatment outcomes [24, 25]. Our data underscore the responsibility universities bear in providing robust theoretical instruction—covering not merely the rationale underpinning PFDPs but also the most current materials used in their manufacture—as well as sound practical training in their fabrication throughout the undergraduate years. Beyond this, education represents a career-long endeavor, particularly within health disciplines, where technological advances and innovation continually give rise to newer materials and procedural methods. Oral health educators, policymakers, and professional dental bodies must actively foster an environment in which dental practitioners remain current with evolving knowledge by engaging with workshops, congresses, symposia, and similar forums, thereby equipping themselves to offer the most effective therapeutic options to those in their care.

Our investigation possesses several strengths. So far as we are aware, it constitutes the inaugural examination of knowledge and clinical behaviors concerning provisional fixed dental prostheses among dental clinicians in Saudi Arabia. The participant pool included dentists from multiple regions across Saudi Arabia, encompassing general practitioners and specialists and spanning a spectrum of ages and professional experience levels. The cohort included both male and female clinicians, Saudi nationals and expatriates, and practitioners operating within both the governmental and private healthcare sectors. This heterogeneity reinforces the representativeness and external validity of the results.

Equally, it stands among the few studies worldwide on this significant subject. Additionally, our participant sample captured a broad cross-section of dental professionals drawn from diverse fields of specialization. That said, the study carries inherent limitations. As participants were enrolled through convenience sampling, the sample's representativeness remains relatively limited. Furthermore, the questionnaire's internet-based, self-completion format may have introduced a degree of response bias among participants. A further shortcoming is our decision not to stratify dental professionals by specialty, a step that would have afforded richer insights. Given the substantial number of dental practitioners in Saudi Arabia, a larger sample would have yielded more robust statistical conclusions. Because our findings are grounded in the Saudi Arabian setting, caution is warranted before extending them uncritically to other contexts worldwide. Accordingly, future research undertaken across varied geographical settings will contribute valuable comparative data.

Conclusion

The present findings reveal that the overall level of PFDP knowledge was insufficient across the majority of the population studied, particularly in the domain of materials and equipment used for their fabrication. Our data further highlight the imperative of embedding more comprehensive theoretical and hands-on clinical educational content within undergraduate curricula. Moreover, given that only 66 percent of participants routinely place PFDPs upon completing tooth preparation, policymakers may wish to consider introducing continuing dental education programs and practical workshops that emphasize the role PFDPs play in determining the ultimate success of FDPs.

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