



## Knowledge and Attitude about Relining of Complete Dentures in Clinical Practice: A Survey among Libyan Clinicians

Salma A. Elnaili <sup>a</sup>, Abdelsalam I Elhddad <sup>b</sup>, Hawwa S. beaayou <sup>c</sup>, Asiel H. Shembeish <sup>d</sup>, Aynour M. Elmalek <sup>d</sup>

<sup>a</sup> Lecturer, Department of Prosthodontics, Faculty of Dentistry, Benghazi University, Libya.

<sup>b</sup> Lecturer, Department of Dental Technology, College of Medical Technology, Benghazi, Libya.

<sup>c</sup> Lecturer, Department of Dental Public Health and Preventive Dentistry, Benghazi University, Libya.

<sup>d</sup> Tutor at Libyan International Medical University (LIMU), Benghazi, Libya.

### ABSTRACT

**Introduction:** To produce a proper adaptation to the denture foundation region, it is necessary to resurface the tissue side of a denture with a new material layer. Typically, it is done when the denture's fit has deteriorated. The objective of the study was to determine knowledge and attitudes about the relining of complete dentures in clinical practice among Libyan clinicians. **Materials and methods:** A cross-sectional study was conducted among 190 Libyan dentists. It consists of a closed-ended, self-administered questionnaire (sociodemographic characteristics, assessment of knowledge and attitude about relining complete dentures in clinical practice). The data was collected and analyzed using SPSS software (SPSS Version 22 for Windows, SPSS Inc., Chicago, IL). **Results:** A total of 140 questionnaires had been returned to the researchers, giving a response rate of 73.7%. The majority of participants (68.8%) were females, and 31.2% were males. About 64.5% of the sample knew that relining is the process utilized to resurface the tissue side of the removable denture with new materials. Whereas, 13% of the respondents thought that relining was the process of replacing the entire denture base material on an existing prosthesis. Prosthodontics who had more than 10 years of experience were more likely to know the conditions for relining. **Conclusion:** The present study concluded that almost all general dental practitioners had limited awareness and attitudes towards the relining of complete dentures in clinical practice. Whereas specialists had sufficient knowledge and attitudes towards the relining of complete dentures in clinical practice. The majority of Libyan prosthodontics were competent in terms of relining indications, procedures, and materials. However, information on contemporary advancements and the antibacterial qualities of denture reliners is sparse. Participating in regular continuing dental education classes may help keep knowledge about the latest developments in this sector up-to-date.

**Keywords:** relining, complete denture, attitude, knowledge, prosthodontics

### 1. Introduction

The main goals of complete denture (CD) creation are to rehabilitate the entire dentition as well as the associated maxilla and/or mandible structures <sup>(1)</sup> and to create denture bases that are as well suited to the underlying tissues as possible. Dentures have a tendency to sag as residual ridge resorption takes place. <sup>(2)</sup> This leads to discomfort, trouble chewing, consuming hard meals, and speech issues. Resilient liners are frequently used and have proven supplementary benefits in the clinical management of prosthodontics patients and to produce a proper adaptation to the denture foundation region, it is necessary to resurface the tissue side of a denture with a new material layer. <sup>(3-6)</sup> Typically, it is done when the denture's fit has deteriorated. Following tooth extraction, the alveolar bone, on which the complete denture is supported, starts to resorb. Furthermore, the amount of residual ridge resorption (RRR) is largest in the first year following a tooth extraction, although it persists for the rest of one's life, and the rate of bone loss varies significantly from person to person. <sup>(7, 8)</sup> The supporting tissue that the denture rests on is altered as a result of RRR in terms of size and form. Moreover, reduced denture retention may be caused by the loss of the denture's adaptability to the mucosa. <sup>(8)</sup>

Before getting a new set of dentures, consider denture relining as a cost-effective solution to extend their lifespan. This is particularly true in a developing nation, where the additional expenses and appointments associated with creating new dentures might deter patients from obtaining care at all. <sup>(9)</sup> Maxilla relines are more frequent than mandibular relines. <sup>(10)</sup> This is true even though the mandible has 2 to 4 times more bone resorption than the maxilla. <sup>(11)</sup> Compared to pairs of CDs, relines are more frequent on single CDs. <sup>(9)</sup> Relines have also been discovered to be more prevalent in males, despite the fact that men have less consistent dental hygiene habits than women and that there is not any proof that sex differences exist in alveolar bone resorption rates. <sup>(12)</sup>

In order to prescribe, choose, and use the material best suited to address any clinical issues a patient may present, a dentist must be aware of the distinctions between the various types of materials. <sup>(11)</sup> However, these clinical treatment options have frequently been skipped where necessary due to a lack of technical knowledge and understanding in the field of relining and rebasing. Relining may have been able to prevent these unnecessary denture remakes,

unfortunately, dentists could use more instruction in this subject.<sup>8</sup> This study aimed to assess knowledge and attitude about relining procedures among dental practitioners of Libya.

## 2. Methodology:

The present study was conducted among dentists in Libya. It is a cross-sectional study, comprised of self-administration, closed-ended online questionnaires. Ethical clearance was obtained from the ethical committee in dental college, University of Benghazi prior to the study with ethical approval number 161. As well as, all of the participants were informed regarding the purpose of the study, and approval was obtained. The questionnaire was in English language and adopted from the previous studies.<sup>(13,14)</sup> A pilot study was conducted by administering the questionnaire to a random sample of 30 participants and to ensure the validity of the questionnaire, modifications were subsequently made based on their feedback.

A questionnaire was designed to gather the sociodemographic characteristics and assess the knowledge and attitude about relining of complete dentures in clinical practice. Sixteen items of questionnaire included five questions regarding sociodemographic information. Five knowledge-related questions, such as the conditions for relining and thickness of denture base that should be scraped out, each one of these questions had many options and only one of them was the correct answer. Six attitude-related questions, such as the relining improves the stability and retention of denture and whether soft reliner is harmful to the oral mucosa. The options for attitude were based on 5-point Likert scale, which requires the dentists to make a decision on their level of agreement on this scale (strongly agree, agree, do not know, disagree, and strongly disagree).

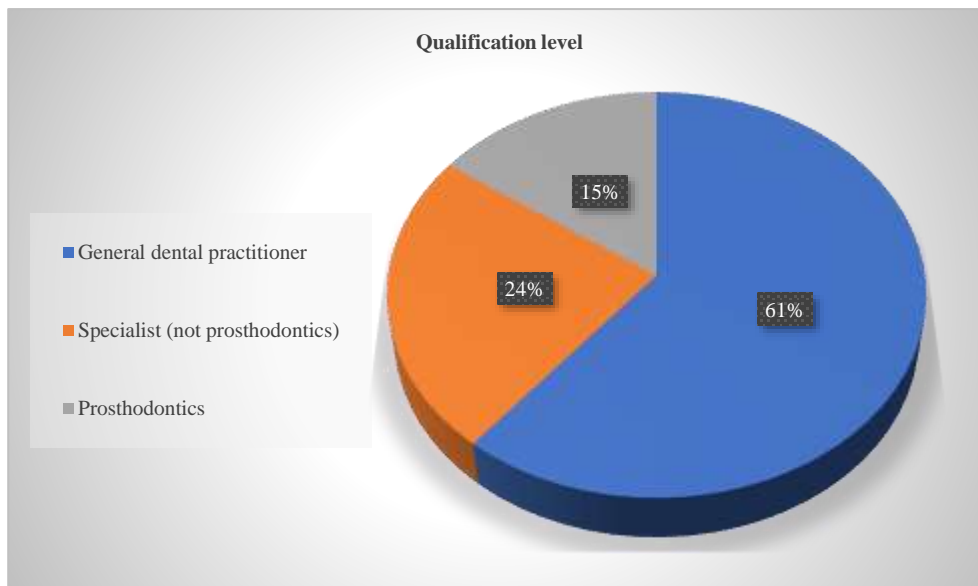
Data was collected over a period of three months. Finally, uncompleted questionnaires were excluded from this study. The data was entered, analyzed and tabulated into a computer using the Statistical Package for Social Science (SPSS Version 22 for Windows, SPSS Inc. Chicago, IL). Data analysis included descriptive statistics.

## 3. Result:

Only 140 participants were returned from a total of 190 dentists, therefore, the response rate was 73.7%. The majority, 68.8%, were females, and 31.2% were males. The average age of the study sample was between 26 and 45 years, which was 65%. Furthermore, the working institution was the highest for the private sector (37%), and when it comes to working experience, 38.4% had more than 10 years of working experience, and almost half of the participants (45.7%) had 1–5 years work experience in the practice dental clinics (**Table 1**). The highest qualification level was GDPs, qualified with just a bachelor's degree, followed by specialists not prosthodontics, and then prosthodontics specialists came afterward (60.9%, 23.9%, and 15.2% respectively) (**Figure 1**).

**Table 1: Demonstrates distribution of the study sample according to socio-demographic and occupation characteristics.**

variables	n	(%)
<b>gender</b>		
Male	43	(31.2)
Female	95	(68.8)
<b>Age</b>		
less than 25	35	(25.4)
26 - 35	45	(32.6)
36 - 45	46	(33.3)
more than 45	12	(8.7)
<b>Work institution</b>		
Governmental	43	(31.2)
Private	51	(37.0)
both	44	(31.9)
<b>Years of work experience</b>		
1 - 5 Yrs.	63	(45.7)
6- 10 Yrs.	22	(15.9)
>10 Yrs.	53	(38.4)
<b>Qualification level</b>		
General dental practitioner	84	(60.9)
Specialist (not prosthodontics)	33	(23.9)
Prosthodontics	21	(15.2)

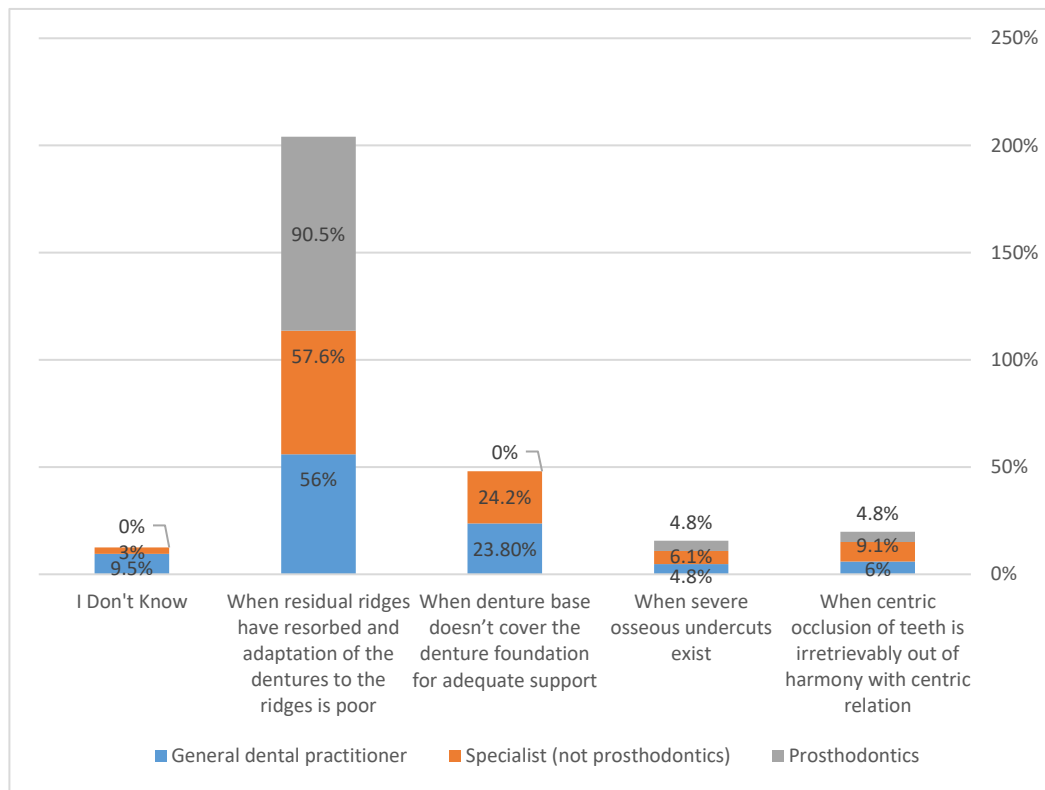


**Figure 1: Distribution of subjects according to qualification level**

The questions related to knowledge of the relining are illustrated in **Table 2**. 64.5% of them knew that relining is the process utilized to resurface the tissue side of the removable denture with new materials. Whereas, 13% of respondents thought that relining was the process of replacing the entire denture base material on an existing prosthesis. Regarding the response to the query regarding how many of your patients require relining, some of the conventional complete denture patients had the highest percentage, which accounted for 37.7%, followed by both conventional complete and partial denture patients, which was 36.2%, and then removal partial patients came afterward 12.3%. In terms of the response to the conditions for relining, when adaptation of the dentures to the residual ridges is poor, it has by far the highest percentage of 61.6% (**Figure 2**).

**Table 2. The Knowledge of dentists related to relining use in dental prostheses**

Questions	Options of respondents n (%)				
	a	b	c	d	f
According to you the concept of relining is?	18 (13)	89 (64.5)	28 (20.3)	3 (2.2)	
How many of your patients require relining?	52 (37.7)	17 (12.3)	50 (36.2)	11 (8.0)	8 (5.8)
In your practice, what are the conditions for relining?	9 (6.5)	7 (5.1)	28 (20.3)	85 (61.6)	9 (6.5)
What kind of preparation you would perform before relining?	15 (10.9)	21 (15.2)	49 (35.5)	41 (29.7)	12 (8.7)
According to you, how much thickness of denture base should be scraped out?	23 (16.7)	55 (39.9)	32 (23.2)	11 (8.0)	17 (12.3)



**Figure 2: Distribution of relining conditions based on qualification level.**

Concerning the attitude of dentists regarding the relining of dental prostheses, the majority of the respondents (65.9%) believed that relining improved the retention and stability of the denture. About 51.4% of them agreed that disinfection should be done before relining the denture and 54.3% felt that relining improves patient satisfaction. Whereas, only 24.6% of sample agreed that relining increases the vertical dimension of the denture (Table 3).

**Table 3. The attitude of dentists regarding to relining use in dental prostheses.**

Statements	Strongly disagree	disagree	Don't know	agree	Strongly agree
Relining improves the stability and retention of denture	11 (8%)	5 (3.6%)	10 (7.2%)	91 (65.9%)	21 (15.2%)
Relining the denture base increases the vertical dimension	13 (9.4%)	50 (36.2%)	33 (23.9%)	34 (24.6%)	8 (5.8%)
Soft reliner is harmful to the oral mucosa	12 (8.7%)	52 (37.7%)	48 (34.8%)	24 (17.4%)	2 (1.4%)
Disinfection should be done before relining the denture	5 (3.6%)	8 (5.8%)	13 (9.4%)	71 (51.4%)	41 (29.7%)

In comparison of corrected answers to these knowledge and attitude by the characteristics of participants; prosthodontics who had more than 10 years of experience were more likely to know the conditions for relining ( $p = 0.013$  and  $0.008$ , respectively) as well as how much thickness of denture base should be scraped out ( $p = 0.026$  and  $0.023$ , respectively). No significant differences were observed by gender or work institution (Table 4). On the other hand, females were more likely to use reliner with antimicrobial properties for every patient ( $p = 0.020$ ). No significant differences were observed between work institutions and years of experience (Table 5).

Table 4: Comparisons of the correct answer of knowledge questions (Between Sociodemographic Characteristics)

variables		According to you, the concept of relining is?	How many of your patients require relining?	In your practice what are the conditions for relining?	What kind of preparation you would perform before relining?	According to you, how much thickness denture base should be scraped out?
Gender	Male	30 (69.8%)	13 (30.2%)	23 (53.5%)	14 (32.6%)	<b>10 (23.3%)</b>
	Female	59 (62.1%)	37 (38.9%)	62 (65.3%)	35 (36.8%)	<b>22 (23.2%)</b>
	P - value	0.384	0.324	0.188	0.626	<b>0.990</b>
Work institution	Governmental	30 (69.8%)	12 (27.9%)	28 (65.1%)	17 (39.5%)	<b>14 (32.6%)</b>
	Private	31 (60.8%)	19 (37.3%)	30 (58.8%)	17 (33.3%)	<b>11 (21.6%)</b>
	both	28 (63.6%)	19 (43.2%)	27 (61.4%)	15 (34.1%)	<b>7 (15.9%)</b>
	P - value	0.656	0.327	0.822	0.799	<b>0.173</b>
Years of work experience	1 - 5 Yrs.	41 (65.1%)	21 (33.3%)	34 (54.0%)	27 (42.9%)	<b>8 (12.7%)</b>
	6- 10 Yrs.	11 (50.0%)	9 (40.9%)	10 (45.5%)	7 (31.8%)	<b>6 (27.3%)</b>
	>10 Yrs.	37 (69.8%)	20 (37.7%)	41 (77.4%)	15 (28.3%)	<b>18 (34.0%)</b>
	P - value	0.262	0.783	0.008**	0.244	<b>0.023**</b>
Qualification level	GDPs	49 (58.3%)	28 (33.3%)	47 (56.0%)	31 (36.9%)	<b>13 (15.5%)</b>
	Specialist (not prosthodontics)	23 (69.7%)	10 (30.3%)	19 (57.6%)	10 (30.3%)	<b>11 (33.3%)</b>
	Prosthodontics	17 (81.0%)	12 (57.1%)	19 (90.5%)	8 (38.1%)	<b>8 (38.1%)</b>
	P - value	0.118	0.092	0.013**	0.770	<b>0.026**</b>

Table 5: Comparisons of the correct answer of attitude questions (Between Sociodemographic Characteristics)

variables		Relining improves the stability and retention of denture	Relining the denture base increases the vertical dimension	Soft reliner is harmful to the oral mucosa	Disinfection should be done before relining the denture	Reliner with antimicrobials property should be used in every patient	Relining the denture improves patient satisfaction
gender	Male	33 (76.7%)	25 (58.1%)	8 (18.6%)	34 (79.1%)	20 (46.5%)	<b>34 (79.1%)</b>
	Female	79 (83.2%)	38(40.0%)	18 (18.9%)	78 (82.1%)	64 (67.4%)	<b>75 (78.9%)</b>
	P - value	0.372	0.048**	0.962	0.673	0.020**	<b>0.987</b>
Work institution	Governmental	34 (79.1%)	21 (48.8%)	10 (23.3%)	38 (88.4%)	30 (69.8%)	<b>32 (74.4%)</b>
	Private	43 (84.3%)	19 (37.3%)	9 (17.6%)	40 (78.4%)	29 (56.9%)	<b>40 (78.4%)</b>
	both	35 (79.5%)	23 (52.3%)	7 (15.9%)	34 (77.3%)	25 (56.8%)	<b>37 (84.1%)</b>
	P - value	0.767	0.301	0.656	0.342	0.354	<b>0.538</b>
Years of work experience	1 - 5 Yrs.	49 (77.8%)	30 (47.6%)	12 (19.0%)	47 (74.6%)	33 (52.4%)	<b>47 (74.6%)</b>
	6- 10 Yrs.	17 (77.3%)	6 (27.3%)	4 (18.2%)	21 (95.5%)	16 (72.7%)	<b>17 (77.3%)</b>
	>10 Yrs.	46 (86.8%)	27 (50.9%)	10 (18.9%)	44 (83.0%)	35 (60.0%)	<b>45 (84.9%)</b>

	<b>P - value</b>	0.409	0.158	0.996	0.089	0.150	<b>0.389</b>
<b>Qualification level</b>	<b>General dental practitioner</b>	66 (78.6%)	37 (44.0%)	17 (20.2%)	65 (77.4%)	49 (58.3%)	<b>61 (72.6%)</b>
	<b>Specialist (not prosthodontics)</b>	26 (78.8%)	14 (42.4%)	2 (6.1%)	28 (84.8%)	20 (60.6%)	<b>29 (87.9%)</b>
	<b>Prosthodontics</b>	20 (95.2%)	12 (57.1%)	7 (33.3%)	19 (90.5%)	15 (71.4%)	<b>19 (90.5%)</b>
	<b>P - value</b>	0.201	0.511	0.038**	0.321	0.546	<b>0.071</b>

#### 4. Discussion

The purpose of the study was to assess the knowledge and attitude towards relining complete dentures among Libyan dental practitioners. Maintenance therapy is the key to a complete denture's long-term survival. To avoid unwanted CD replacement, maintenance in the form of relining and rebasing can be performed. In other words, to improve the fit of the dentures to the alveolar borders and fragile tissues, as well as to balance obstruction and progress work, they must be relined with a new resin layer. <sup>(15, 16)</sup>

Given the result of this study, it was noted that only 64.5% of participants—general dental practitioners, specialists in prosthodontics and not prosthodontics—knew that relining is the process used to resurface the tissue side of the removable denture with new materials. However, there was no statistically significant difference; the p-value was not significant when comparing the corrected answers related to knowledge (Table 4). A similar study <sup>(14)</sup> was done on prosthodontics specialists and reported that only 78% of participants knew what is the relining, and this result was quite similar to the knowledge of prosthodontics specialists in this study which was 81%. Also, a study done by Rathi A. Banerjee <sup>(13)</sup> showed that all 200 practitioners were aware of the relining procedure and routinely performed it in their dental clinics, 50% were unaware of the correct relining step-by-step procedure and were also unsure about the properties of the relining material available on the market, and although the majority of the sample knew the relining, they still lack knowledge about the improvement in this issue. <sup>(14)</sup>

Furthermore, regarding whether relining improves the adaptation of dentures, 65.9% believed that relining improves the retention and stability of dentures, and 81% also agreed with the same concept. <sup>(13)</sup> A study done by Hristov et al. reported that relining denture bases with resin improved their stability on the ridges. However, there was no statistically significant change in retention after relining. <sup>(16)</sup>

Concerning relining the denture base, it increases the vertical dimension; more than one-third of dentists in this research (36.2%) do not think that the vertical dimension has risen. The P value was not significant except in terms of gender; males were more likely to know that relining the denture did not increase the vertical dimension of the denture than females (Table 5). Whereas, according to a previous study <sup>(17)</sup>, 51.2% agreed that the vertical dimension was enhanced. In another study, dentures with robust liners have been shown to have enhanced retention and stability, as well as chewing and speaking skills. <sup>(18)</sup> However, problems arise when the procedure is not adhered to precisely. Examples include the possibility of focal occlusion issues and incorrect occlusion in the vertical dimension. <sup>(17)</sup>

Regarding disinfection, it should be done before relining the denture. Only 5.8% of participants in the present study disagreed with this concept, whereas 29.7% of them gave an agreed response and 9.4% did not know about the antimicrobial properties of reliners. While, a study that was conducted by Rathi A. and Banerjee <sup>(13)</sup> revealed that about 35% of practitioners did not know about the antimicrobial properties of reliners, the same percentage of practitioners disagreed with the use of antimicrobial relining material and the majority of dentists thought that disinfection was not necessary before the relining procedure. However, fungi and dental plaque colonize soft lining materials in the oral cavity quickly, potentially causing mucosal infections. *Candida albicans* is the most commonly found organism in soft liner materials. <sup>(19)</sup> Although antimicrobial incorporation into lining materials has been investigated previously, but there are few examples of exceptionally successful combinations. Silver nanoparticles, antifungal medications, origanum oil, silver zeolite, and seed oils were among the antimicrobials used. The application of antimicrobial agents increases the therapeutic longevity of resilient materials while decreasing plaque buildup. <sup>(20)</sup>

#### 5. Conclusion and Recommendation:

The present study concluded that almost of general dental practitioners had limited awareness and attitudes toward relining of complete dentures in clinical practice among Libyan clinicians. Whereas specialists had sufficient knowledge and attitudes toward relining of complete dentures in clinical practice. The majority of Libyan prosthodontics were competent in terms of relining indications, procedures, and materials. However, information on contemporary advancements, cutting-edge relining materials, and the antibacterial qualities of denture reliners is sparse. Participating in regular continuing dental education classes may help keep knowledge about the latest developments in this sector up to date. Strongly recommended that the knowledge about the relining of complete dentures in the undergraduate curriculum should be stressed and improved.

**However, this study faced some limitations as** the absence of accurate records for the actual number of dentists in either public or private clinics. Therefore, we could not calculate the sample size exactly and selected a convenience sample during a period of research. Also, the information related to practice was not included in our study because more likely to be used in research regarding prosthodontics specialists only.

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## Appendix

## Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	43	31.2	31.2	31.2
	Female	95	68.8	68.8	100.0
	Total	138	100.0	100.0	

## Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 25	35	25.4	25.4	25.4
	26 - 35	45	32.6	32.6	58.0
	36 - 45	46	33.3	33.3	91.3
	more than 45	12	8.7	8.7	100.0
	Total	138	100.0	100.0	

## Work institution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Governmental	43	31.2	31.2	31.2
	Private	51	37.0	37.0	68.1
	both	44	31.9	31.9	100.0
	Total	138	100.0	100.0	

## Years of work experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - 5 Yrs.	63	45.7	45.7	45.7
	6- 10 Yrs	22	15.9	15.9	61.6
	>10 Yrs.	53	38.4	38.4	100.0
	Total	138	100.0	100.0	

## Qualification level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	General dental practitioner	84	60.9	60.9	60.9
	Specialist (not prosthodontics)	33	23.9	23.9	84.8
	Prosthodontics	21	15.2	15.2	100.0
	Total	138	100.0	100.0	

## According to you the concept of relining is?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Process of replacing the entire denture base material on an existing prosthesis	18	13.0	13.0	13.0
	Process used to resurface the tissue side of the removable dental prosthesis with new base	89	64.5	64.5	77.5
	Both are partially correct	28	20.3	20.3	97.8
	I Don't Know	3	2.2	2.2	100.0
	Total	138	100.0	100.0	

## How many of your patients require relining?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some of the conventional complete denture patients	52	37.7	37.7	37.7
	Some of removable partial denture patients	17	12.3	12.3	50.0
	both	50	36.2	36.2	86.2
	Only immediate denture patients both	11	8.0	8.0	94.2
	I Don't Know	8	5.8	5.8	100.0
	Total	138	100.0	100.0	



**In your practice, what are the conditions for relining?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
When centric occlusion of teeth is irretrievably out of harmony with centric relation	9	6.5	6.5	6.5
When severe osseous undercuts exist	7	5.1	5.1	11.6
When denture base doesn't cover the denture foundation for adequate support	28	20.3	20.3	31.9
When residual ridges have resorbed and adaptation of the dentures to the ridges is poor	85	61.6	61.6	93.5
I Don't Know	9	6.5	6.5	100.0
Total	138	100.0	100.0	

**What kind of preparation you would perform before relining?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Wipe the denture with cotton roll dipped in antiseptic solution and proceed for relining	15	10.9	10.9	10.9
Examine the denture surface and proceed for relining	21	15.2	15.2	26.1
Examine and assess the denture surface and soft tissues, then only proceed for relining	49	35.5	35.5	61.6
Remove all calculus and slimy layer with ultrasonic cleaner, scrape the tissue surface and proceed	41	29.7	29.7	91.3
I Don't Know	12	8.7	8.7	100.0
Total	138	100.0	100.0	

**According to you, how much thickness of denture base should be scraped out?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
2 mm from tissue surface and 2mm from denture border area	23	16.7	16.7	16.7
1-1.5 mm from tissue surface and 2 mm from the denture border area	55	39.9	39.9	56.5
0.5 mm from the tissue surface and 1 mm from denture border area	32	23.2	23.2	79.7
0.5 mm from tissue surface and 0.5 mm from denture border area	11	8.0	8.0	87.7
I Don't Know	17	12.3	12.3	100.0
Total	138	100.0	100.0	

**Relining improves the stability and retention of denture**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Strongly disagree	11	8.0	8.0	8.0
disagree	5	3.6	3.6	11.6
Don't know	10	7.2	7.2	18.8
Agree	91	65.9	65.9	84.8
Strongly Agree	21	15.2	15.2	100.0
Total	138	100.0	100.0	

**Relining the denture base increases the vertical dimension**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	13	9.4	9.4	9.4
disagree	50	36.2	36.2	45.7
Don't know	33	23.9	23.9	69.6
Agree	34	24.6	24.6	94.2
Strongly Agree	8	5.8	5.8	100.0
Total	138	100.0	100.0	

**Soft reliner is harmful to the oral mucosa**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	12	8.7	8.7	8.7
disagree	52	37.7	37.7	46.4
Don't know	48	34.8	34.8	81.2
Agree	24	17.4	17.4	98.6
Strongly Agree	2	1.4	1.4	100.0
Total	138	100.0	100.0	

**Disinfection should be done before relining the denture**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	5	3.6	3.6	3.6
disagree	8	5.8	5.8	9.4
Don't know	13	9.4	9.4	18.8
Agree	71	51.4	51.4	70.3
Strongly Agree	41	29.7	29.7	100.0
Total	138	100.0	100.0	

**Reliner with antimicrobial property should be used in every patient**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	4	2.9	2.9	2.9
disagree	24	17.4	17.4	20.3
Don't know	26	18.8	18.8	39.1
Agree	63	45.7	45.7	84.8
Strongly Agree	21	15.2	15.2	100.0
Total	138	100.0	100.0	

**Relining the denture improves patient satisfaction**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	6	4.3	4.3	4.3
disagree	3	2.2	2.2	6.5
Don't know	20	14.5	14.5	21.0
Agree	75	54.3	54.3	75.4
Strongly Agree	34	24.6	24.6	100.0
Total	138	100.0	100.0	

**Chi-Square Tests**

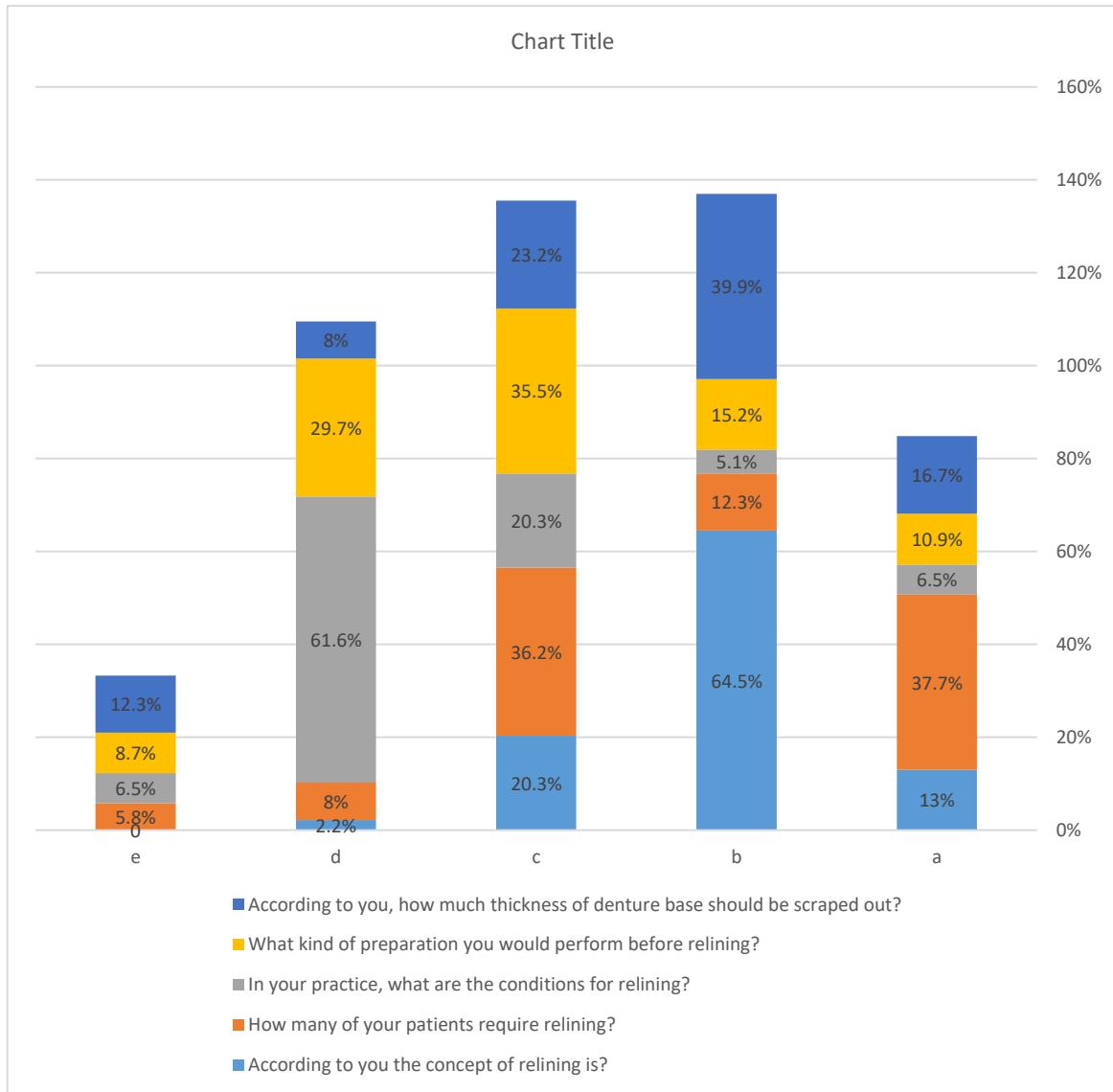
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.460 <sup>a</sup>	4	.022
Likelihood Ratio	13.367	4	.010
Linear-by-Linear Association	4.910	1	.027
N of Valid Cases	138		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.49.

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.311 <sup>a</sup>	4	.679
Likelihood Ratio	2.250	4	.690
Linear-by-Linear Association	.066	1	.798
N of Valid Cases	138		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 2.18.



### Knowledge and Attitude about Relining of Complete Dentures in Clinical Practice: A Survey among Libyan Clinicians

#### 1. Socio-demographic and occupation characteristics

- **Gender**  
Male      Female
- **Age**  
Less than 25    26 - 35    36 - 45    more than 45
- **Work institution**  
Governmental      Private      both
- **Years of work experience**  
1 - 5 Yrs.      6- 10 Yrs.      >10 Yrs.
- **Qualification level**  
General dental practitioner      Specialist (not prosthodontics)      Prosthodontics

#### 2. Response on Knowledge related questions regarding relining among of dentists:

- **According to you the concept of relining is?**
  - a. Process of replacing the entire denture base material on an existing prosthesis.
  - b. Process used to resurface the tissue side of the removable dental prosthesis with new base.
  - c. Both are partially correct.
  - d. Don't know.
- **How many of your patients require relining?**
  - a. Some of the conventional complete denture patients.
  - b. Some of removable partial denture patients.
  - c. Both.
  - d. Only immediate denture patients.
  - e. Don't know.
- **In your practice, what are the conditions for relining?**
  - a. When centric occlusion of teeth is irretrievably out of harmony with centric relation.
  - b. When severe osseous undercuts exist.
  - c. When denture base doesn't cover the denture foundation for adequate support.
  - d. When residual ridges have resorbed and adaptation of the dentures to the ridges is poor.
  - e. Don't know.

1.

- **What kind of preparation you would perform before relining?**
  - a. Wipe the denture with cotton roll dipped in antiseptic solution and proceed for relining.
  - b. Examine the denture surface and proceed for relining.
  - c. Examine and assess the denture surface and soft tissues, then only proceed for relining.
  - d. Remove all calculus and slimy layer with ultrasonic cleaner, scrape the tissue surface and proceed.
  - e. Don't know.
- **According to you, how much thickness of denture base should be scraped out?**
  - a. 2 mm from tissue surface and 2mm from denture border area.
  - b. 1-1.5 mm from tissue surface and 2 mm from the denture border area.
  - c. 0.5 mm from the tissue surface and 1 mm from denture border area.
  - d. 0.5 mm from tissue surface and 0.5 mm from denture border area.
  - e. Don't know.

#### 3. Response on attitude related questions regarding relining among of dentists: Relining improves the stability and retention of dentures

- Strongly disagree
- Disagree
- Don't know
- Agree
- Strongly agree

#### Relining the denture base increases the vertical dimension

- Strongly disagree
- Disagree
- Don't know
- Agree
- Strongly agree

#### Bulk rubber is harmful to the oral tissues

- Strongly disagree
- Disagree
- Don't know
- Agree
- Strongly agree

#### Distraction should be done before relining the denture

- Strongly disagree
- Disagree
- Don't know
- Agree
- Strongly agree

#### Reline with antimicrobial property should be used in every patient

- Strongly disagree
- Disagree
- Don't know
- Agree
- Strongly agree

#### Relining the denture improves patient satisfaction

- Strongly disagree
- Disagree
- Don't know
- Agree
- Strongly agree

2.