The nature and quality of the delivery of prosthodontic care in the Kingdom of Bahrain:

Experiment #3

By

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RESULTS AND DISCUSSION

Experiment #3: Laboratory support for prosthodontic treatment in the Kingdom of Bahrain.

Hypothesis: That all dental laboratories will provide laboratory work to a high standard and full range of prosthodontic lab support is available in the Kingdom of Bahrain.

Results

How long was your internship training?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 6 months	50	50.0	50.0	50.0
	6 months	37	37.0	37.0	87.0
	1 year	13	13.0	13.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked regarding the duration of their internship training. The results showed that there were 50 out of 100 respondents who had less than 6 months internship training, 37 out of 100 respondents who had 6 months internship training and 13 out of 100 respondents had more than 1 year internship training. Therefore, majority of the respondents had less than 6 months internship training.

What kind of practice was your internship training?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Private/NHS	50	50.0	50.0	50.0
	Community	50	50.0	50.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked what kind of practice was the internship training. The results showed that 50 out of 100 respondents had Private/NHS internship training and 50 out of 100 respondents had Community training. Therefore, half of the respondents had Private/NHS training and half of the respondents had Community training.

Did you have internship training in prosthodontic department?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	73	73.0	73.0	73.0
	No	27	27.0	27.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked that if they had internship training in prosthodontic department or not. The results highlighted that 73 out of 100 respondents had internship training in prosthodontic department and 25 out of 100 respondents had internship training in prosthodontic department. Therefore, it was found that majority of the

respondents had internship training in prosthodontic department.

What type of dental prosthesis did your internship training cover?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Removable Complete Dentures	6	6.0	6.0	6.0
	Removable Partial Dentures	18	18.0	18.0	24.0
	Crowns	38	38.0	38.0	62.0
	Bridges	29	29.0	29.0	91.0
	Implant Prosthesis	9	9.0	9.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked regarding the type of dental prosthesis they covered in internship training. As per the results, it was found that 38 out of 100 respondents covered crowns in their internship training, 29 out of 100 respondents covered bridges in their internship training and 18 out of 100 respondents covered removable partial dentures in their internship training. There were 9 out of 100 respondents who covered implant prosthesis in their internship training and 6 out of 100 respondents covered removable complete dentures in their internship training. Therefore, it was observed from the results that majority of the respondents covered crowns in their internship training.

Approximately how many dental prosthesis have you made during your internship training?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2	6	6.0	6.0	6.0
	3-4	30	30.0	30.0	36.0
	More than 4	64	64.0	64.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the participants when that how many dental prosthesis they have made during the internship training. The results highlighted that 64 out of 100 respondents made more than 4 dental prosthesis, 30 out of 100 respondents made 3-4 dental prosthesis and 6 out of 100 respondents dental prosthesis. Therefore, the results showed that majority of the respondents made more than 4 dental prosthesis.

What Type of dental prosthesis do you make in your practice?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Removable Complete Dentures	5	5.0	5.0	5.0
	Removable Partial Dentures	22	22.0	22.0	27.0
	Crowns	33	33.0	33.0	60.0

	Bridges	31	31.0	31.0	91.0
	Implant Prosthesis	9	9.0	9.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked what type of dental prosthesis they make in their practice. The results showed that there were 33 out of 100 respondents who made crowns in their dental prosthesis practice, 31 out of 100 respondents who made bridges in their dental prosthesis practice and 22 out of 100 respondents out of 100 respondents who made removable partial dentures in their prosthesis practice. On the other hand, there were 9 out of 100 respondents who made implant prosthesis in their prosthesis practice and 5 out of 100 respondents who made removable complete dentures in their prosthesis practice. Therefore, it was observed from the results that majority of the respondents made crowns in their dental prosthesis practice.

How many labs do crowns, bridges, etc?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	10	10.0	10.0	10.0
	5	39	39.0	39.0	49.0
	7	38	38.0	38.0	87.0
	more than 7	13	13.0	13.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the participants when asked that how many labs do crowns, bridges dentures and implant prosthesis. 39 out of 100 respondents indicated that 5

labs do crowns, bridges, dentures and implant prosthesis, 38 out of 100 respondents indicated that 7 labs do crowns, bridges, dentures and implant prosthesis, 13 out of 100 respondents indicated that more than 7 labs do crowns, bridges, dentures and implant prosthesis and only 10 out of 100 respondents indicated that 3 labs do crowns, bridges dentures and implant prosthesis. Therefore, majority of the respondents highlighted 5 or more labs do all dental prosthesis.

How many technicians are there in your lab?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2	17	17.0	17.0	17.0
	2-3	46	46.0	46.0	63.0
	3-4	29	29.0	29.0	92.0
	more than 5	8	8.0	8.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked that how many technicians were in the lab. There were 46 out of 100 respondents who indicated that 2-3 technicians in the lab, 29 out of 100 respondents indicated that there were 3-4 technicians in the lab, 17 out of 100 respondents indicated that there were 1-2 technicians in the lab, and 8 out of 100 respondents indicated that more than 5 technicians were there in the lab. Therefore, majority of the respondents indicated that there were 2-3 technicians in the lab.

What is the level of training?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Beginner	32	32.0	32.0	32.0
	Intermediate	42	42.0	42.0	74.0
	Advanced	26	26.0	26.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked about the level of training in prosthesis. It was found that 42 out of 100 respondents indicated intermediate level of training, 32 out of 100 respondents indicated beginner level of training and 26 out of 100 respondents indicated advanced level of training. Therefore, it was observed that majority of the respondents had intermediate level of training.

Would you prefer further training?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	37	37.0	37.0	37.0
	No	63	63.0	63.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents regarding their preference for further training. The results showed that 63 out of 100 respondents did not prefer further training whereas 37 out of 100 respondents preferred further training. Therefore, the results showed that majority of the respondents did not prefer further training.

Do you feel confident in performing your work?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	44	44.0	44.0	44.0
	No	56	56.0	56.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents regarding their confidence level in performing the work. The results showed that 56 out of 100 respondents did not feel confident in performing the work while 44 out of 100 respondents felt confident in performing the work. Therefore, majority of the respondents did not feel confident in performing the work.

What is the effectiveness (quality) of communication from the supplying dentists?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poor	23	23.0	23.0	23.0
	Average	43	43.0	43.0	66.0
	Excellent	34	34.0	34.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents regarding the quality of communication from the supplying dentists. The results showed that 43 out of 100 respondents indicated average quality, 34 out of 100 respondents' indicted excellent quality of communication and 23 out of 100 respondents indicated poor quality of communication.

Therefore, as observed from the results, majority of the participants indicated average quality of communication from the supplying dentist.

What is the monthly output (patients) in terms of crowns, RPDs, and bridges?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 patients	9	9.0	9.0	9.0
	6-10 patients	19	19.0	19.0	28.0
	11-15 patients	41	41.0	41.0	69.0
	16-20 patients	21	21.0	21.0	90.0
	more than 20 patients	10	10.0	10.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked regarding the monthly output of crowns, replaceable dentures and bridges. It was found that 41 out of 100 respondents indicated 11-15 patients as the monthly output, 21 out of 100 respondents indicated 16-20 patients as the monthly output and 19 out of 100 respondents indicated 6-10 patients as the monthly output. On the other hand, 10 out of 100 respondents indicated more than 20 patients and 9 out of 100 respondents indicated 1-5 patients as monthly output.

Do you sub-contract your work?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	43	43.0	43.0	43.0
	No	57	57.0	57.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked that whether they sub-contract the work or not. The results showed that there were 57 out of 100 respondents who indicated that they did not sub-contract their work whereas 43 out of 100 respondents who indicated that they do sub-contract their work. Therefore, majority of the respondents responded that they did not sub-contract their work.

Are there limitations to the delivery of prosthodontic care?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	39	39.0	39.0	39.0
	No	61	61.0	61.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked if there are any limitations to the delivery of prosthodontic care. It was found from the results that 61 out of 100 respondents indicated no and o 39 out of 100 respondents indicated yes regarding the limitations to the delivery of prosthodontic care.

Did you feel that you were adequately taught and trained how to design metal removable partial dentures?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	36	36.0	36.0	36.0
	No	55	55.0	55.0	91.0
	Undecided	9	9.0	9.0	100.0
	Total	100	100.0	100.0	

The above table shows the response of the respondents when asked that if they feel that they were adequately taught and trained how to design metal removable partial dentures or not. The results showed that there 55 out of 100 respondents who disagreed that they were adequately taught and trained how to design metal removable partial dentures and 36 out of 100 respondents who agreed that they were adequately taught and trained how to design metal removable partial dentures. Conversely, there were only 9 out of 100 respondents who could not decide that if they were adequately taught and trained how to design metal removable partial dentures or not. Therefore, majority of the respondents felt they were not adequately taught and trained how to design metal removable partial dentures.

Did you feel that you were adequately taught and trained how to plan and make crowns and bridges?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	37	37.0	37.0	37.0
	No	51	51.0	51.0	88.0
	Undecided	12	12.0	12.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked if they feel that they were adequately taught and trained how to plan and make crowns and bridges. The results showed that there were 51 out of 100 respondents who disagreed that they were adequately taught and trained how to how to plan and make crowns and bridges and 37 out of 100 respondents who agreed that they were adequately taught and trained how to how to plan and make crowns and bridges. Conversely, there were only12 out of 100 respondents who could not decide that if they were adequately taught and trained how to plan and make crowns and bridges Therefore, majority of the respondents felt they were not adequately taught and trained how to plan and make crowns and bridges.

Did you feel that you were adequately taught and trained how to plan and make implant supported prosthesis?

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Yes	24	24.0	24.0	24.0
	No	44	44.0	44.0	68.0
	Undecided	32	32.0	32.0	100.0
	Total	100	100.0	100.0	

The above table shows the responses of the respondents when asked if they feel that they were adequately taught and trained how to plan and make implant supported prosthesis. The results showed that there were 44 out of 100 respondents who disagreed that they were adequately taught and trained how to how to plan and make implant supported prosthesis and 24 out of 100 respondents who agreed that they were adequately taught and trained how to how to plan and make implant supported prosthesis. Conversely, there were only 32 out of 100 respondents who could not decide that if they were adequately taught and trained how to plan and make implant supported prosthesis. Therefore, majority of the respondents felt they were not adequately taught and trained how to plan and make crowns and bridges.

What is the most difficult stage of crowns and bridges?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Treatment Planning	1	1.0	1.0	1.0
	Tooth Preparations	18	18.0	18.0	19.0
	Impression making	43	43.0	43.0	62.0
	Delivery of prosthesis	38	38.0	38.0	100.0

Total	100	100.0	100.0	

The above table shows the responses of the respondents regarding the most difficult stage of crowns and bridges. The results showed that 43 out of 100 respondents found impression making as the most difficult stage of crowns and bridges and 38 out of 100 respondents found delivery of prosthesis as the most difficult stage of crowns and bridges. On the other hand, 18 out of 100 respondents found tooth preparation as the most difficult stage of crowns and bridges and only 1 out of 100 respondents as the most difficult stage of crowns and bridges. Therefore, impression making and delivery of prosthesis were considered as the most difficult stage of crowns and bridges.

Discussion

This chapter presents a discussion of the results of the questionnaire which aimed to study the role of laboratory support for prosthodontic treatment in the Kingdom of Bahrain. It is important to understand that dental practice is successful when there is effectiveness of laboratories in providing dental prosthesis. The support of laboratory results in effective dental prosthesis and hence it requires result-oriented strategies. It has been indicated that quality is one of the most important factors which needs to be considered for improving prosthodontic treatment in the Kingdom of Bahrain. Laboratory performance needs to be enhanced through well-trained dentists and lab technicians. Quality is the most important factor which determines successful prosthodontic treatment. It needs to be emphasized that training and practice are the keys to enhance quality of work. It becomes highly crucial for aligning the activities of dentists

and lab technicians so that there is superior quality of dental services delivered to patients. Joint efforts and coordination are required to enhance prosthodontic treatment.

The research findings showed that training of laboratory technicians can enhance quality of work through practice, training, coordination and communication. Technicians need to have the ability to interpret and analyze the prescriptions. Knowledge is also required related to dental treatment and types of prosthesis. The study by Afsharzand, Rashedi and Petropoulos (2006) highlighted that variety of dental services need to be assessed based on the performance of lab technicians. The role of both dentists and laboratory technicians is important for quality services. Dental laboratories can specialize in one field such as implant prosthesis, dentures or crowns for delivering quality services. The improvements in dental services can be achieved through joint efforts and collaboration of dentists and lab technicians.

The delivery of prosthodontic care in the Kingdom of Bahrain is based on crowns, bridges, fixed and partial dentures and implant prosthesis. The results showed that majority of the crown treatment are provided which is one of the key prosthodontic care service. The laboratory technicians have sufficient expertise and training in providing quality services for crown, bridges and dentures. However, dentures and implant prosthesis requires further training for increased confidence level of laboratory technicians.

In addition to this, quality prosthesis requires positive working relationship. It has been highlighted that communication and cooperation are needed for achieving better performance. The results showed that there is a need of communication and cooperation between dentist and laboratory technicians to improve prosthodontic treatment. A flow of communication and information sharing are highly required to ensure that quality dental services are being provided to patients. The efficiency and responsiveness in delivering dental services requires learning

environment where dentists and laboratory technicians can share information and improve their expertise. It becomes important for laboratory technicians to maintain conformity according the policies and regulations so that there are no loopholes. Transparency in dental care is required to meet the high standards. The laboratory services provide immense support to dental prosthesis treatment in the Kingdom of Bahrain but there are still some problem areas which need to be improved.

The research findings of the study further highlighted that internship training is needed in future to increase the confidence level of laboratory technicians. The study by Radhi, Lynch and Hannigan (2007) highlighted that continuous learning, communication and training is needed to ensure accelerated performance and increased quality of dental services. Therefore, this shows that training needs to be encouraged and provided on regular basis so that skills are developed continuously in the Kingdom of Bahrain. Continuous improvement leads toward better performance and increased confidence of laboratory technicians. The result also indicated that half of the respondents were not confident about the work they perform. This is because of the need for further training and positive reinforcement. The performance of laboratory technicians needs to be enhanced through effective off the job and on the job training which facilitates towards quality and efficiency.

In order to bring dental laboratories to a high standard, it requires continuous learning of laboratory technicians so that technological innovations and market changes can be learned and adopted. It becomes highly important to adopt IT innovations for ensuring high quality of dental services. Laboratory technicians and dentists need to be on the same level so that use of new innovative technology can be made more effective. Juszczyk, Clark and Radford (2009) highlighted that the effective use of technology for prosthodontic treatment can only be achieved

through information sharing, communication and training. The training needs to the laboratory technicians needs to be assessed so that effective training methods can be used. In the kingdom of Bahrain, the laboratory support for prosthodontic treatment requires cost effective approach which results in accelerated performance and efficiency. The increasing costs of dental equipment and materials needs to be overcome through efficiency of laboratory technicians who are key enablers for extensive support of prosthodontic treatment in the Kingdom of Bahrain.

Subsequently, according to the study by Gopalakrishna and Munnaleneni (1993), laboratory support for prosthodontic treatment is believed to be enhanced through effective work schedules. The working relationship between dentists and laboratory technicians who focus on efficiency in managing schedules. This ensures timely response which is the key indicator of efficiency. The laboratory support needs to be ensured in an efficient manner so that it helps in generating patient satisfaction.

The results of the study also indicated the fee charged for the dental services. The average fees of the dental services mainly removable complete dentures, removable partial dentures crowns, bridges and implant prosthesis showed that prices have increased and thus this requires superior quality of services to be delivered for achieving patient satisfaction. Patient satisfaction and the value of the dental services are dependent upon quality prosthodontic treatment. This can be ensured through a positive relationship between dentist and laboratory technicians in the Kingdom of Bahrain.

According to Brennan and Spencer (2006), there are some key activities of the laboratory which needs to be fulfilled in order to achieve successful prosthodontic treatment. The study found that the laboratory technicians need to follow the written and oral instructions given by the dentist. Effective data management and data sharing is carried out by laboratories in order to

increase the support for successful prosthodntic treatment. It has become highly important to focus of data management and data sharing to handle large amount of patients;' data and medical records.

The research findings of the study highlighted the relationship of dentists and lab technicians to enhance patient satisfaction. Mukena (2010) believed that the dentist-dental technician relationship needs to be built on mutual understanding. When dentists and laboratories should join together to achieve mutual benefits. The joint collaboration leads towards patient satisfaction and overall improvement in dental services. The benefits which are derived from this relationship are mainly effective dental treatment plan which provide quality services to patients and ultimately result in increased patient satisfaction. The study by Dawson, Cranham and Pace (2008) highlighted that oral healthcare teams need to involve lab technicians in the entire dental treatment process starting from the construction of the prosthesis rather than involving them after the completion of dental procedures.

Similarly, Mukena (2010) highlighted the study of Morgenthal (1977) which carried out a study in U.S. to assess the decisions of dentists when selecting dental laboratories. The research aim of the study was to assess specific laboratory related needs and perception of dentists. It was found that majority of the dentists considered quality as the most important factor when selecting the laboratory. The other factors were technical capacity, price and schedule of work. The participants also indicated referral from their dentists and proximity of the laboratory. Mukena (2010) further indicated that the laboratories which were rejected by the dentists were those having a poor fit which meant poor performance and quality. Therefore, quality has been considered as the major reason when making the selection of laboratories.

Poor delivery of services has been found to be directly linked with patient dissatisfaction and poor performance. The performance of lab technicians is highly critical for minimizing inefficiencies. The lab technicians need to follow the instructions of the dentists particularly prescribed prescriptions so that there is alignment and coordination in the procedural work. Another major factor which was identified as highly important for ensuring quality services was price for technical services. It was found that the attitude of dentists also played a vital role in choosing the laboratory which was based on the type of practice, location, preference and ego of the dentists. The experience dentists are those which make effective decisions to ensure quality in delivering dental services to the patients.

Another study by Farah et al. (1991) conducted a survey to assess the activities of laboratory, identify issues and suggest useful recommendations to dentists for establishing better relationships. The study gathered data such as the procedures, activities, material section, types of preparations, and impression trays for crown, bridges and replacements and design of complete/partial dentures.

It was found that dentists do not give much importance to the interests of the lab technicians. There was no proper interaction between dentist and laboratory technicians. There was poor communication which resulted in distance between the dentists and dental laboratory. There was no two-way communication which resulted in poor results. It is important to note that Al-AlSheikh (2012) highlighted that delivering quality dental services requires collaborative efforts of both the dentist and the laboratory technician. It requires effective communication and relationship building between the internal stakeholders so that end users can be provided with superior quality dental services. Majority of the lab technicians have indicated that they were not appreciated by the dentists for their work. This shows lack of effective communication which

ultimately affects the performance of the technicians. Al-AlSheikh (2012) further indicated that the quality of communication between dentists and dental technicians for fixed and removable prosthodontics determines the performance. Prosthodontic care can be enhanced through quality of communication which serves as the key to reach the objectives. Communication is the integral aspect which reflects how efficiency optimization and quality assurance are achieved in dental services and treatment. Prosthodontic care through the support of laboratory can be made qualitative through making effective use dental technicians who have a key role in delivering dental services to patients. The link between Prosthodontic care and laboratory support can be enhanced through

It has been suggested that positive reinforcement need to be provide which is a sign of effective communication. The study emphasized that positive reinforcement of lab technician can result in increased quality of services provided by the technicians. Therefore, the relationship between dentists and lab technicians needs to be enhanced so that high standard work can be provided in the Kingdom of Bahrain. Laboratory support for prosthodontic treatment can only be improved through developing and maintaining positive relationship between dentists and lab technicians.

Another study by Rashedi and Petropoulos (2006) pointred out that communication between laboratory technician and the dentist can result in better performance. Effective communication results in better training and practice of dental laboratory technicians which results in increased quality and efficiency of work. The research aimed to identify the specific areas of work authorization forms for fabrication of fixed and partial dentures. It was again found in the study that there was no communication which affected the quality of dental services. Therefore, the research finding also indicated that laboratory technicians required further training

to enhance their skills and expertise. It was also found that communication and coordination was required to achieve excellence in delivery of dental services.

Moreover, the respondents of this particular study indicated that communication needs to be improved further between dentists and technicians so that quality prosthesis services can be delivered. The intentions of the dentists should be communicated to the laboratory technician for achieving increased performance. It is highly imperative for dentists to play a role in giving feedback to lab technicians so that they can improve their performance. According to Maynard (2005), for successful prosthodontic treatment, it is important that there is effective interaction between the dental team members. It becomes important to use both aesthetics and expertise to provide successful dental prosthesis. The study indicated that laboratory technicians need to meet the changing demands of the global market where quality prosthodontic treatment should be achieved during construction. It includes good fit, strength, aesthetics and bio-compatibility. Therefore, laboratory technicians need to be trained and guided for delivering quality dental services. Dental restorations are one of the most critical and important dental services which need extra care and quality performance to satisfy patients. Patients demanding dental services are highly concerned regarding their appearance when they have lost teeth or oral tissues. It is important for laboratory technicians to focus on their performance for achieved increased patients' satisfaction.

The research findings further elaborated that laboratory technicians and dentists are both major partners in delivering dental technical services. As per Al Hilli (2003), in the Kingdom of Bahrain, dental prosthesis has gained significance due to the increasing dental problems in citizens. The efficiency and responsiveness in delivering dental services requires learning environment where dentists and laboratory technicians can share information and improve their

expertise. It becomes important for laboratory technicians to maintain conformity according the policies and regulations so that there are no loopholes. This has forced dentists to collaborate with laboratory technician so that excellence and quality can be achieved. It has become important to focus on minimizing errors and inefficiencies through creating a strong and professional relationship between dentists and laboratory technicians.

Furthermore, the results of the study showed that training level delivered to laboratory technicians is intermediate level. Intermediate level of training is sufficient for basic dental treatment but for enhancing the quality and efficiency, it is necessary that advanced level of training is provided. According to Dickie, Shearer and Ricketts (2013), advanced level of training for improving the performance of laboratory technicians is the key to achieve excellence in prosthodontic care. It becomes highly crucial for focusing on the quality prosthodontic care in the Kingdom of Bahrain through strong support of laboratories. It becomes important to ensure effective training so that laboratory technicians are able to plan treatment and deliver services successfully and efficiently in collaboration with dentists. The need for training cannot be underscored for enhancing the quality of prosthodontic care in the Kingdom of Bahrain.

The research findings also indicated that the laboratory support for proshodontic care is provided mainly through crowns, fixed bridges, complete dentures and implant-supported prosthesis in the Kingdom of Bahrain. It was found that qualityof laboratory support for prosthodontic treatment has been improved but it still requires more improvements to achieve quality excellence. Quality is determined through patient satisfaction and cost effectiveness of work performed by the dentists and dental technicians. Therefore, previous studies such as Al-AlSheikh (2012), Afsharzand, Rashedi and Petropoulos (2006), Dawson, Cranham and Pace

(2008) and Brennan and Spencer (2006) have also indicated the need and importance of effective communication and training for improving prosthodiontic care.

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APPENDIX

Delivery of prosthodontic care in the Kingdom of Bahrain

Your assistance with completing this questionnaire is greatly appreciated.

Please circle or tick the appropriate answer

1. What is the year of your graduation? _____
2. In which dental college did you qualify? _____
3. Where did you undertake your Internship Training? _____
4. How long was your internship training?
    a. Less than 6 months
    b. 6 months
    c. 1 year
5. What kind of practice was your internship training?
    a. Private/NHS
    b. Community
6. Did you have internship training in prosthodontic department?
    a. Yes
    b. No
7. What type of dental prosthesis did your internship training cover?

a. Removable Complete Dentures

b. Removable Partial Dentures

c. Crowns

d. Bridges

e. Implant Prosthesis

8. Approximately how many dental prosthesis have you made during your internship training?
    a. None
    b. 1-2
    c. 3-4
    d. More than 4
9. What Type of dental prosthesis do you make in your practice?
    a. Removable Complete Dentures
    b. Removable Partial Dentures
    c. Crowns
    d. Bridges
    e. Implant Prosthesis
10. What is the average fees your charge for:
    a. Removable Complete Dentures: BD 150-250
    b. Removable Partial Dentures: BD 50-100
    c. Crowns: BD 20
    d. Bridges: BD 30
    e. Implant Prosthesis: BD 200-350
11. How many labs do crowns, bridges, etc?
    a. 3

b. 5

c. 7

d. More than 7

12. How many technicians are there in your lab?

a. 1-2

b. 2-3

c. 3-4

d. More than 5

13. What is the level of training?

a. Beginner

b. Intermediate

c. Advanced

14. Would you prefer further training?

a. Yes

b. No

15. Do you feel confident in performing your work?

a. Yes

b. No

16. What is the effectiveness (quality) of communication from the supplying dentists?

a. Poor

b. Average

c. Excellent

17. What is the monthly output in terms of crowns, RPDs, and bridges?

a. 1-5 patients

b. 6-10patients

c. 11-15 patients

d. 16-20 patients

e. More than 20 patients

18. Do you sub-contract your work?

a. Yes

b. No

19. Are there limitations to the delivery of prosthodontic care?

a. Yes

b. No

20. Did you feel that you were adequately taught and trained how to design metal removable partial dentures?

a. Yes

b. No

c. Undecided

21. Did you feel that you were adequately taught and trained how to plan and make crowns and bridges?

a. Yes

b. No

c. Undecided

a. No

b. Undecided

22. What is the most difficult stage of crowns and bridges?

a. Treatment Planning

b. Tooth Preparations

c. Impression making

d. Delivery of prosthesis