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PROVIDERS' PERCEPTIONS OF THE KEY ISSUES AFFECTING THE DELIVERY OF QUALITY SERVICES AT A DENTAL CLINIC IN PORT MORESBY, PAPUA NEW GUINEA: A QUALITATIVE DESCRIPTIVE STUDY

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Running title: Issues affecting quality dental care in PNG

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ABSTRACT:

The aim of this study was to identify factors that affect the dental service delivery in a dental clinic from the context of Papua New Guinean dental providers and to make practical recommendations to improve dental service delivery. This qualitative descriptive study used individual interviews with seven dental providers to identify the factors that were affecting quality dental service delivery in a dental clinic in Papua New Guinea. The factors influencing the quality of dental service fell into three categories and 8 themes. The categories were environmental factors with themes of resources and facilities, leadership and management, partnership development and collaboration; provider-related factors with themes provider competence, provider motivation and satisfaction; and required measures with the themes of a new dental clinic building, renovation of the main clinic area and organizational structure. Quality dental service is achieved when there is a supportive working environment with availability of (new) physical amenities and dental resources, and proper management and organizational structures with supportive visionary leadership. This would encourage teamwork and partnership development internally within the dental team and externally with its stakeholders. Furthermore, it would increase staff motivation and satisfaction internally and partnership development internally within the dental staff and externally with its stakeholders. Consider creating a new dental clinic. Develop a contract between the University and the Hospital to resolve the property ownership issues. Create a clear organizational structure and improve management interaction with clinical staff so that management is supportive. Improve the quality of dental supplies and create an efficient material ordering system. Ensure fairness to staff and respect to procedures are compliantly maintained to encourage teamwork. Reward clinical staff for mentoring and teaching dental students. Create access to continuing professional development for the clinical staff.

Key words: Access to care, allied health, utilization of health services, health management, oral health, dentistry, Papua New Guinea

INTRODUCTION:

Oral health is an important aspect of the general development and wellbeing of an individual [1,2]. To encourage and improve oral health, proper dental services with adequate resources are necessary. However, poor dental facilities and lack of resources is seriously affecting the quality of dental services being provided in both the rural and urban areas of Papua New Guinea (PNG). Of greatest concern is the dental service of the country's national referral and teaching hospital.

The Dental Clinic* is recognised as PNG's referral and teaching dental centre. Accordingly, it should include specialist services and be equipped with advanced health resources. The Dental Clinic has been sharing the clinic facility with the Dental School of a premier University*, under a special agreement since December 1989.

The unmet demand for dental services such as dental extractions and restorations is always a challenge to its providers and patients at the Dental Clinic. Yet, mid-2014 saw the closure of the main building that contained the ten out-dated dental units, due to medically-compromised issues. The Dental Clinic system faces a number of serious challenges, particularly service quality.

The definitions of quality medical services are diverse. Avedis Donabedian defines healthcare

service quality as a process that maximises greatest benefit to humans without risk through the application of medical science and technology [3]. He distinguishes three components of quality: i) technical quality, ii) interpersonal quality, and iii) amenities [4]. Mosadeghrad's definition of quality healthcare service is "consistently delighting the patient by providing efficacious, effective and efficient healthcare services according to the latest clinical guidelines and standards, which meet the patients' needs and satisfies providers" [4]. Timeliness, consistency, amenities and facilities are some attributes of quality healthcare services, as identified by Mosadeghrad [5].

Dental services in PNG are far from efficient and, according to current global standard due to many contributing factors, including political and socio-economic issues [6-8], such as education level and income. Equity described as the freedom from favouritism, equality where people have equal access to services, and quality of dental services are ongoing major issues. Dental services in PNG are relatively scarce and expensive, and are utilized more in large urban centres than in rural areas [9]. A regional review of oral health in the Pacific in 1996 showed the total dental personnel to population ratio was 1:28,200 [10]. Current data on dental personnel in PNG are unavailable to compare the variations, but inequity and

* To preserve the anonymity and privacy of participants drawn from a small professional group, details of participants and clinic are withheld

inequality of dental personnel is still observed as a common problem in the Dental Clinic [9]. At present, there are no standards of care guidelines or policies developed for the dental profession in PNG [11-12]. While empirical studies have been carried out to assess the quality of healthcare organizations [13,14], little research has been conducted to identify factors that affect quality of healthcare services [4]. A limited number of studies have addressed this issue in both dental clinic settings [15,16] and in PNG [17]. The need for updated studies investigating the quality of dental services in PNG is essential to investigate this issue of quality services. This study, therefore, aimed to fill this research gap by empirically exploring dental providers' perspectives on factors affecting their dental service delivery in PNG organizations, in order to develop appropriate measures to increase the level of service quality [4].

The aims of this research were to identify and understand the factors affecting dental providers' delivery of quality service; and to explore possible measures that could aid in that outcome of quality dental services.

METHODOLOGY:

Purposive sampling was employed to identify the primary participants. The selected participants were those seen as having authority within the different cadres of the dentistry profession; currently working and clinically engaged with patients; that have

access to the issue affecting the quality of dental services; speak English as their second language; and are from PNG. Those excluded were dental interns, because of their temporary placement within the organisation; and auxiliary staff, because they are not directly involved with the patient treatment process.

For a phenomenology research, 2 to 30 participants are considered sufficient to reach saturation or when additional interviews no longer reveal new information to the issue in this study [18,19]. Hence, a sample size of nine participants was selected initially. However, due to timing factors and patient workload during the interview week, a senior dental officer and an oro-maxillo-facial surgeon were not available for interviewing resulting in only 7 participants that were interviewed. The principal investigator contacted each of the identified potential participants directly through email, to discuss the nature of the research and seek permission for their involvement in the present research.

The Donabedian Model [20] and Haywood-Farmer's Attribute Service Quality Model [21] were used to govern this research project regarding dental service quality. Avedis Donabedian's [22] Model is widely accepted as the method for designing the main dimensions of healthcare quality. The model considers the viewpoint of structure, process, and outcomes. Haywood-Farmer's Attribute Service Quality Model shares similar views to the Donabedian Model. However, his model states that a

service organisation is of high quality if it consistently meets customer preferences and expectations [21]. His model describes services to have three basic attributes that form the apex of the triangle: (i) physical facilities and processes; (ii) people's behaviour; and (iii) professional judgement. Each attribute consists of several factors, and it is assumed that decline in service quality arises when there is too much focus on any one of these elements, leading to the exclusion of others [23]. Yerdavletova and Mukhambetov [24] suggested grouping these attributes in Haywood-Farmer's Model as direct and indirect factors that affect the quality of medical services.

The attributes in Haywood-Farmer's Model were grouped as direct and indirect factors that affect the quality of medical services [24]. These models are used to develop a theoretical model to investigate the key study variables in this research issue (Figure 1). Dentistry is a specialised medical profession that requires competent skills and theory, adequate resources, and advanced facilities to enable quality of services provided. Therefore, the proposed study variables consisted of dependent and independent factors of quality of dental services.

This research study used the naturalistic (critical) paradigm because no context or human experience being investigated is similar to the present research field of study. The methodological framework employed in this research project is the qualitative descriptive phenomenological approach. Semi-structured questions were developed. The questions were approved by the research supervisor and a pre-test was performed on two individuals with similar backgrounds to the participants.

An information sheet was provided to each participant prior to commencement of the data collection and consent forms were read and signed before any interviews were conducted. Ethics approval was obtained from The James Cook University Human Research Ethics Committee as well as endorsement from the Hospital's Management.

All interviews were digitally recorded in order to capture verbatim language and voice inflections; this process took approximately 45 minutes. The collected data and transcripts were saved on a secured password protected computer and backed up on a secure external hard drive. Transcripts were subjected to thematic content analysis [25]. Due to not having any analysis software, the whole processes of data analysis were hand coded.

Figure 1. Conceptual model: Factors affecting quality of service.

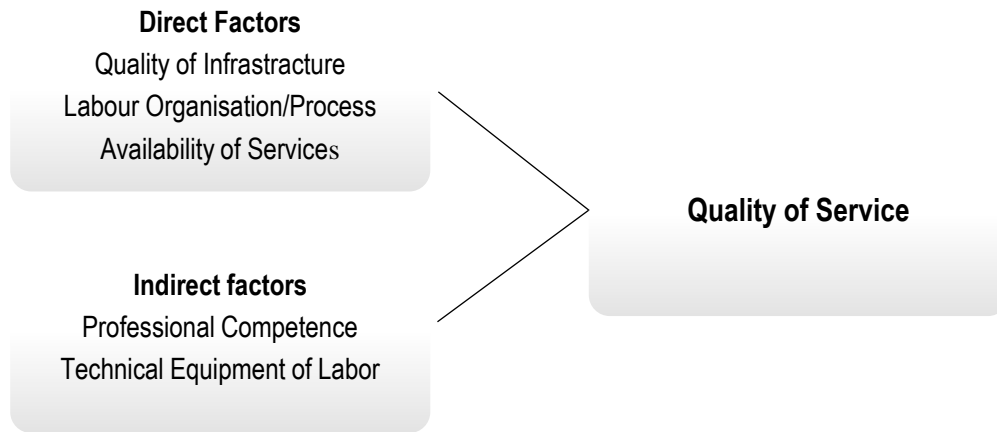


Table 1. Factors influencing the quality of dental service.

| Category | Themes |
|--------------------------|--|
| Environmental Factors | Resources and Facilities Leadership and Management Partnership Development and Collaboration |
| Provider-Related Factors | Provider Competence Provider Motivation and Satisfaction |
| Required Measures | New Dental Clinic Building Renovation of Main Clinic Area Organizational Structure |

RESULTS AND DISCUSSION

Due to timing factors and patient workloads, two were unavailable for interview leaving seven participants. Two senior dental nurses, one senior dental officer, one dental coordinator, one dental technician and two senior dental therapists were interviewed.

The views of participants on current factors influencing the quality of dental care services

were grouped into three main categories and eight themes (Table 1).

Environmental Factors

Resources and Facilities: The non-availability and inaccessibility of dental materials and the issue of property ownership limited the providers' performances in service delivery, in terms of quantity and quality.

“You are in a university property, you are only allowed certain part of the building and so (inaudible)...yeah pretty much limited to what you have and what you can use so, but they’ve been very good in fact to allowing us to stay” (Participant 4).

“Yes, ah we have limited spaces, in the areas; at the room and um limited resources to better treat the patients” (Participant 6).

Leadership and management

Good leadership and top management support through strategic planning and the implementation of politically influenced policies were mentioned as an important enabler for progress of development of a new dental clinic building and/or renovation of the currently closed main dental clinic area. The lack of the Organization’s visions for the Dental Clinic and its workers appeared to correlate to a strategic management disorder.

“But in the beginning they say there was funds for renovation but been diverted. So that’s why I said we are not the priority people. So like priority has been given to other places so they divert the funding” (Participant 1).

“I’m sure the management is aware of it because our bosses, ah, they send report down but nothing has been happened” (Participant 3).

An organisation without proper structures to correct failures, either in its work force and/or environment, degrades staff morale, or causes interpersonal conflicts in the dental clinic. This was observed and commented by most

participants as affecting their service quality in terms of motivation and interpersonal relationships.

“(Name withheld) comes to the clinic once a week or twice a week or sometimes not at all so in my opinion, the superiors should take note of these and give them some warning or letter of notice but there hasn’t been any...” (Participant 2).

“Things that we need and we just complain to ourselves and we are not bringing our questions or queries to our supervisors because sometimes like we feel scared or we feel shy to tell them we should do this, we don’t have this, we should be doing this” (Participant 3).

Conversely, most participants blamed the dental team’s lack of collective or strategic approaches to ensure their voices were heard by the top management.

“You are only thinking about yourself and doing your own duties.... You all need to have a plan. Stop working aimlessly...” (Participant 2).

“I don’t take part in decision-making of the place (long pause), management, they make the decision” (Participant 4).

Partnership development and collaboration

Low quality dental supplies and no proper structure of ordering and delivering were seen by participants as affecting their delivery of service quality in terms of tasks completions.

“The Pharmaceutical services are the ones who are in charge of ordering. Before dentistry we choose our but when they make changes, it’s

solely the ah, procurement division blo (for) pharmaceutical service in health department. Yes, so they have been, I don't know whether they consult our office, curative health service up there, our department section up there or not" (Participant 5).

"...we put our order through pathology and then we get (pause), sometimes like when we bring our container down, it takes time to come up. So sometimes like it's not really good that we ah, we have to use distil water for that autoclave machine" (Participant 3).

The Melanesian custom of wantok (one-talk) system and lack of task delegation were seen to be practiced in the Dental Clinic and this affected the dental employees' motivation to work. Effective communication and collaboration were considered essential parameters in high-quality healthcare service.

"So we are practising some kind of wantok (one-talk) systems in here, which is really not good. That's why things are not going on so well here" (Participant 2).

"There should need to shift, ah, it would require a total attitude change. A change of attitude from the staff; Ah now they are so relax because of the space wise, because there is no direction, everyone is relaxed. So they just wait for the people to, ah few operators to see the most patients while the others they just relax" (Participant 6).

Provider-Related Factors

Provider competence

Many participants commented that they were qualified and experienced to perform their job. However, the lack of resources and facilities that limits them to provide more advanced services.

"For myself, I feel that I am very experienced" (Participant 2).

"...we can do complex treatment in terms of, you know the restoration, of we've been doing that, yeah and we can do quality treatment just like a doctor" (Participant 5).

Participants were aware that patient care is their priority and, regardless of the working environment they had to ensure the patient's needs are met daily.

"Patient care comes first no matter the facility is not good or what, we still have patient care as our priority. That's what we're doing here" (Participant 1).

"Before you know when we got this paper (certificates) we said that through good or bad condition we will help (patients). We swore an oath" (Participant 2).

Therefore, to ensure providers provide the quality patient care necessary updates on the latest scientific and technological advances in this profession are necessary as mentioned by participants. As such, they saw the need for in-services or workshops as necessary; however, they commented that this is no longer occurring.

"I think that's one of the main things also is lacking. They haven't been out of here to go for

to attend some conferences and all that, you know workshops” (Participant 1).

“To have continuous education training using this facility, from this...to actually run an in-house based on what we actually need, and the technological and the scientific advances in material, that maybe we could advances” (Participant 4).

The interviewed participants commented about their willingness to establish a professional relationship with the University in terms of mentoring and teaching.

“The satisfaction to see that you are instilling sometimes the knowledge...the younger generations that can get out of you. Yeah so while being part of the hospital I think the most rewarding is actually teaching, yeah” (Participant 4).

“Like this dental, the (name withheld) should be practised on its own and like it’s good that we are part of the university so that the students can learn from us...” (Participant 2).

However, participants have commented that they have stopped this practice of mentoring and teaching, due to lack of recognition or reward for their voluntary roles.

“...train the new and upcoming including you and the rest of the others first graduates. And that we did with heart, you know it was rewarding, you know getting it there where they were. Until there was, ah no, no understanding, no rewarding system, no saying thank you for...” (Participant 4).

Provider motivation and satisfaction

Dental providers identified good working environment, good leadership, and transparent organisation visions as factors that influence the dental providers’ motivation and, consequently, job satisfaction.

“And you can see from the space where we working at the moment, we only have three chairs and we are the referral hospital and the national referral hospital. And we are not even doing that. We seem to be doing the simple (treatment), so the services are not good” (Participant 1).

“The most exciting part of my work is like I enjoy working with the doctors especially when we are doing surgical cases” (Participant 7).

Almost all participants expected at least some form of organization structure to guide staffs’ performance in work. They commented that having a goal would increase staff motivation in their service delivery.

“But if they can give us some goals to achieve, then I believe we should provide as many services in our, ah there are other services like um, education, oral education to help ah to prevent, which is not taken place” (Participant 6).

“Since they remove the chairs on the other side, ah no, there is no real development even though the hospital promised us. Ah well it is, I mean its hospital’s responsibility to do the maintenance, ah infrastructure, that’s all is hospital’s responsibility” (Participant 5).

“Plus like now the training, they’ve stopped helping out the training for our staff from (name

withheld). So if you want to do training, you have to resign” (Participant 1).

Required Measures to Improve Service

Currently the main measures required to improve the services provided, as voiced by the participants are the need: for a new dental clinic building fully equipped with necessary dental equipment and resources; to renovate the main clinic; and of a good management.

New Dental Clinic

All the participants were certain that a new dental clinic, equipped with appropriate technical dental materials, would boost staff morale to work and raise the quality of service provided.

“Yes like I do enjoy working in the surgery but most of the time we don’t have you know proper instruments and we should have our own dental (pause), my point of view like we should have our own dental clinic. We should have everything, dental lab, wards” (Participant 7).

“Yeah basically the facilities and having a clinic where you can actually relax and see your patients daily as they come instead of sharing and you know, there’s a (incomplete sentence)” (Participant 4).

Renovate main clinic

There were concerns with the long process in decision-making in approval for a new dental clinic. It was suggested that renovation of the main dental clinic building and instalment of new dental chairs would be less costly, require

less decision-makers and should be the current priority.

“And they have to approve and that will take a very long time. So because the building is here, all we want is to see, ah implemented quickly is just get the chairs and refurnished the place again and let’s see the patients” (Participant 5).

“And of course the chairs are all run-down so we need new chairs. And that is one of the things we’re really trying to work together with the management to help us to continue the renovation” (Participant 1).

Organisational Structures

The participants commented that a clear organisational structure involving task delegation, update of knowledge and skills, clear visions and goals were necessary to improve the service delivery.

“Management to lead the proper management to our setting to a dental level, and also to a national level. That is actually what’s missing and collective approach to get everyone involves” (Participant 4).

“We just come see patients and then we go so there should be something put in place like a strategy plan like in the next 5 years we should achieve somethings.” (Participant 6).

Availability of dental resources, including facilities, equipment, materials and staff, which includes clinical and non-clinical workers [26], was seen by participants to play an important role in delivery of a quality dental service. This finding is similar to that found in previous research [4,15,27]. These findings are of great

importance to organizational managers as they identify factors that influence employee commitment and motivation.

The implementation of the Free Health Services in PNG and the lack of the much needed government support during the implementation of this policy have affected the financial budget of the Hospital. The Hospital's budget is insufficient to purchase the many instruments and materials that are needed to ensure quality patient care outcomes and services from the dental providers. This has resulted in limited treatment options being provided to a limited number of patients. The only treatment currently offered was relieving of pain via teeth extractions.

Although an improved working environment is necessary [28], other factors, including social support and encouragement for innovation at work, are equally important for enhancing providers' feelings of dedication and motivation to work [4,29,30]. These can be easily achieved through the development of an effective organizational structure within the dental setting.

Types of leadership and management differ in different settings; however, effective management will enable the progress of development and encourage teamwork within any organisation [4]. These suggest that dental service quality can be improved by a supportive or quality-orientated management, with clear goals and objectives, and strategic planning and management of resources, including

employees and processes. These are consistent with other findings of creating an inspiring vision, establishing shared values, setting clear goals and objectives, providing direction, motivating employees and empowering them to participate actively in quality improvement, monitoring progress, providing appropriate feedback and giving tangible rewards [4,31].

Supporting services and resources such as suppliers, logistics or cleaning services are crucial in the effective and efficient delivery of any business or organization's operations. In dental services, as with any other healthcare service, maintaining good professional and encouraging collaboration with other healthcare providers and/or support businesses is necessary. For instance, it is essential that the Dental Clinic establishes a good feedback relationship with its dental suppliers to ensure that the correct and accurate instruments or equipment are ordered and purchased. Working in collaboration with the Pharmaceutical Services is necessary to ensure quality dental materials are supplied, or providing case reports on the issues of lack of water supply in the sterilising room in order to develop an efficient strategy plan in the delivery of distilled water.

The need for constantly updating knowledge and skills is vital to provide quality, reliable and accurate treatment options for patients, due to the rapid development of advanced technology and scientific findings in medical professions

[4,32,33]. However, the issue that is currently impeding dental workshops and in-house trainings in the Dental Clinic is the lack of finance. A continuous organisational learning team should be organized within the Dental Clinic team to meet further employees' professional and skills needs.

Another issue raised during the research included the training provided to the dental students. Training takes time, expertise, and finance, therefore, institutions providing such should play a bigger role in the effective training of human resources for healthcare organisations. Staff liked mentoring and teaching students. However, the need for recognition or acknowledgment was important to influence this attitude. This finding was consistent with other research that appropriate recognition and reward systems are important tools for employees who want to improve the quality of their work [32,34].

Recognition and the feeling of achievement are more likely to influence staff motivation and, thus, their performance [35] as commented by some participation during the interviews. Findings found that participants could be very competent, but without much or due recognition could affect service quality through poor work performance or low work inter-personal relationships [33]. Resource availability and worker competence are essential, but not sufficient to ensure desired worker performance [35,36]. Despite the poor working environment, the factor of few dental employment

opportunities in the country has prevented most staff from leaving the Dental Clinic in search of better job opportunities. Hence, the more appropriate approach would be to create a united workforce to ensure staffs are committed to providing the highest-quality care.

Several limitations need to be acknowledged. The results should not be generalized to other countries or health organizations with different organizational characteristics, business culture and management styles. Secondly, due to the deadline of this research project task it was impossible to conduct different data collection methods and to develop and evaluate action for change. Not all participants were available for the interviews, and the non-available people may have had different views that could have affected the result findings [37].

Further research is encouraged to use this method in conjunction with quantitative methods. It is recommended that future studies in this setting may want to explore and identify factors following the development and implementation of a quality management plan, by using a mixed-method approach. Ultimately the client should have a say in determining service quality and this is also a necessary area for further research.

CONCLUSION AND RECOMMENDATIONS:

The factors influencing the quality of dental service fell into three categories and 8 themes. Lack of quality management and strategic planning affected the progress of dental service

delivery, and had an indirect effect on staff members' morale and motivation to work. Staff members have highlighted that these issues affected their services many times. Therefore, effective leadership and team approaches will support employees by encouraging education, self-development and removing barriers between staff and their superiors.

The recommendations includes consider creating a new dental clinic that is equipped with technical dental materials; develop a contract between the University and the Hospital to resolve the property ownership issues; create a clear organizational structure and improve management interaction with clinical staff so that the management is supportive; improve the quality of dental supplies and create an efficient material ordering system; ensure fairness to staff and respect to procedures are compliantly maintained to encourage teamwork.; reward clinical staff for mentoring and teaching dental students; and create access to continuing professional development for the clinical staff.

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