



First International Dental Camp Experience among Rural Population of Lumbini, Nepal.

*Rosita Phol, *⁺Ravee Phol, MD. ,⁺⁺Kanyarat Simaraj,⁺⁺⁺Monton Suwannarak, ⁺⁺ⁱⁱNantana Sriudomporn..*

Introduction

In the commemoration of the late His Majesty King Bhumibol Adulyadej of Thailand. The Royal Thai Monastery Lumbini Nepal has organized the first International Dental Camp joined by volunteer ophthalmologists from Thailand and Nepal to deliver dental treatment in the remote rural interiors of Nepal where medical facilities are scarce and out of reach.

Objective

To evaluate the application and feasibility of providing screening, diagnosis, preventive dental treatment for rural population through dental camp with the cooperation between International, academic professionals and local communities.

Materials and Methods

The study was conducted and the data was collected from the dental camp in Lumbini Nepal between 9-11 December 2022. 331 patients were registered for dental treatment and 30 patients were selected and interviewed with semi-structured questionnaire and in- depth interview.

Results

331 patients were registered and received dental treatment. The type of dental treatment like scaling (150 patients), extraction (136 patients), teeth x-ray(26 patients), tooth filling (5 patients) and oral examination and oral hygiene instruction(14 patients)were performed. The overall patient satisfaction with the care received ranged from satisfactory to excellent.

Conclusion

The study shows an International dental camp can provide an excellent opportunity for rural populations regarding oral health care.

Keywords: Lumbini, Nepal, International Dental Camp

From the * Shrewsbury International School Bangkok; ⁺Bangkok Hospital, ⁺⁺Khok Pho Hospital, ⁺⁺⁺Dental Clinic, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand.

Introduction

Oral health is the state of the mouth, teeth and orofacial structures that enables individuals to perform essential functions such as eating, breathing and speaking, and encompasses psychosocial dimensions such as self-confidence, well-being and ability to socialize and work without pain, discomfort and embarrassment. Oral health varies over the course from early life to old age, integral to general health and supports individuals in participating in society and achieving their potential.¹⁻³

In Nepal, ever since the commencement of National Oral health policy in year 2004, there has been significant amount of dental problems especially in the rural and under privileged population due to various education, cultural and socioeconomic burden.

Dental caries is considered a major public health problem in Nepal. In Nepal, the caries prevalence is found to be 64% in urban and 78% in rural population where as approximately 35 % of the age group 35-44 years have a deep periodontal pocket.⁴⁻⁵

Despite having some of the most significant Buddhist sites the world and being an important ecological hotspot, the Greater Lumbini area cuts across some of Nepal and South Asia's poorest areas. It's three immediate towns in Lumbini Province- Rupandehi, Nawalparasi and Kapilvastu face major development challenges, from inadequate or absent of basic services to gap in income generation opportunities and also in health care services.⁶

Background

Phra Sribodhivides, Abbot of the Royal Thai Monastery in Lumbini, Nepal has been organizing cataract surgical camps for the people around Lumbini area for almost 13 times. This year in the commemoration of the late His Majesty King Bhumibol Adulyadej of Thailand, he has organized the first time International Dental camp in Lumbini.

Four years ago the Monastery has opened the free of charge dental clinic in Lumbini which operates only on Monday with the capacity of only 20 patients per day. It's a two storey building with one dental unit. The volunteer dentists came from the Universal College of Medical Science, Bhairahawa. Services included dental extraction, scaling and root canal treatment. During 3 years of Covid-19 pandemic, the clinic has been closed and just reopened 4 months ago.

The Royal Thai Monastery in Lumbini introduced the first International dental camp services as a trial measure in Lumbini area on the ground area of the dental clinic site. Patients will receive free treatment for scaling, tooth extraction but not dental fillings or root canal treatment. The other major services provided are⁷

1. Counseling, referral services and follow-up of patient's progress through arrangement with local authorities
2. Prevention services in the form of creating dental health awareness among the deprived in the rural areas.
3. Opportunity provides to medical and other voluntary personnel to work in a unique field situation
4. Teaching dentist, working in the dental camp
5. Exchange experience and knowledge between the professional dentists from The Dental Department Ramathibodi Hospital Thailand and The Universal college of Medical Science, Bhairahawa, Nepal.

Methods

The study was cross-sectional and data was collected during the dental camp between 9-11 December in Lumbini, Nepal. 331 patients were registered and received dental treatment .30 patients were randomly selected for semi construction questionnaire and in-depth interview by the researcher with the help of a Nepalese interpreter.

Set up of portable dental camp

1. Paperwork process before the trip. With those authorizations we can clear customs without having our equipment put in 'detention'. Some of the heavy equipment (481 kgs) have been sent before to the monastery dental clinic by air cargo.
2. Collaboration with the Universal College of Medical Science, Bhairahawa, Nepal has been established. They will provide the upgrade and the maintenance of medical instruments. They will also provide 2 senior dentists for supervision and write prescription. At least 10 dentist students will participate in registered, screening and perform Covid-19 test for patients under the supervision of senior dentist.
3. A 6 *8 meters outdoor tent was set up to the waiting and observation area which can contain almost 50 patients. Crowd control of the camp is absolutely necessary because the crowds get increase larger. Patients will put on cap and disposable apron including gargling with chlorhexidine mouthwash before the procedure.
4. Another 4* 6 meters outdoor tent was set up to be the dental units. 3 unit of portable dental chairs with lamps and 2 adaptive sofas were setting up in good light. The camp can use the 220 Volt electricity from the Monastery dental clinic.
5. There are two portable autoclaves which was set up on a separate table to work and sterilize instruments area for wash basic run by tap water was sat the corner and paper towels was used. Other instrument included 3 unit of electric scaler,2 unit of high suction, Portable x-ray, hand instruments for tooth extraction, scaling tips, operative sets for filling or restoration, Airtor and micro-motor with high speed and low speed. Miscellaneous items such as surgical gloves, scrub sets, disposable surgical gown, surgical cap, mask (N 95 and ordinary), sterile gauze, anesthetic solution (Scandonest 2% and 3%),injection needle, face shield, paper for draping and other hand instrument were also cargo from Bangkok.
6. All five dentists from Thailand wore personal protective equipment with N-95 mask. There were also 3 dental assistants,1 dental technician and 1 team co-ordinate from Thailand. Dentist will look at the screening chart which was done by Nepali dentists. More information or explanation about the procedure will carry out with the help of a Nepali translator. This varies from patient to patient depending upon how sophisticated the treatment is. The arrangement of the waiting area for treatment is imperative to have a distance (distancing).
7. In the dental camp there were five dental unit which dental procedure like extraction, scaling was performed after taking informed consent. Patients were told during screening and the dental chair that filling, root canal treatments were not available and they can be referred to other facilities if they wish to. But on the second day of the camp we managed to performed 5 teeth filling by using the available Monastery dental unit.
8. The patients who need medicine were also provided with free of cost during the camp. At the same time minor oral health awareness program were also conducted among the patients who were seating in the waiting camp.

Results

In the three days of dental camp by our team a total of 331 patients were registered and underwent for dental treatment. Scaling was one of the highest type of dental treatment performed followed by extraction. All complex and filling care of our camp were transferred tertiary or government center.

Type of Dental Treatment Performed

Day	Scaling	Extraction	X-Ray	Tooth filling	Oral examination & oral hygiene instruction	Total
1	40	22	5	0	7	74
2	43	60	15	5	3	126
3	67	54	6	0	4	131
Total	150	136	26	5	14	331

30 patients who attended the dental camp were random selected and were interviewed with semi-structured questionnaire and in-depth interview. The finding are as followed.

1. The main reason the patients attended the dental camp because 1. It was free of charge 2. It was well advertised by the Monastery 3. Trust in foreign dentist 4. Want free antibiotic or pain killer not dental procedure.
2. The majority of participation (90%) belong to the low socioeconomic status, while most of the participants were found to be brushing with their toothbrush and fluoridated toothpaste, but many of them (30%) were seen using a chewing stick (find a tree that has fibrous branches (bamboo or neem bark). Break off a toothbrush sized twig. Chew on one end to fray that part of the twig, which can now be used in lieu of an actual toothbrush).
3. The prevalence of tobacco chewing (pan masala, gutka) was high (80%) in both males and females above 50 years old. Few young men were seen using of tobacco chewing. No young women were seen using tobacco chewing.
4. 40 % of the participant have never been to the dentist before.
5. 30 % of the participant has used the services of non-professional tooth extraction at the Indian-Nepal border since it was cheap (100 rupees for tooth extraction)
6. 90 % of the participant have not done scaling in their life.
7. The overall patient satisfaction with the care received ranged from satisfactory to excellent. The manner of the dental surgeon was observed to be the highest rated, followed by the quality of dental treatment.
8. The categories where the patients is unsatisfied is the lack of time in pre-counseling before the tooth-extraction. Many patients want their teeth to be preserved by filling and do not want their teeth to be removed due to their own believes, despite that they cannot afford denture, implant or root canal treatment. When asked the dentists about this complaint, their answer is that most of the patient's teeth cannot be preserved, if it can be preserved they will never extract the patient teeth.
9. Lumbini communities face a range of barriers to accessing oral care. These are geographical barriers, such as long distance or difficult terrain, but also social barriers, such as lack of transportation, lack of insurance and a shortage of oral health providers. Lumbini communities are also experienced high rate of poverty, and have significant fewer dentists per person. Lumbini communities also have less money, fewer teeth, more cavities, greater challenges accessing care and poor overall health than their non-rural counterparts.

Discussion

Accessibility of oral health care services has been identified as a key barrier or challenge for more living in the rural area. There are few private dentist clinic in Lumbini and some non- profession who practiced teeth extraction at Indian-Nepal border for the cheap price. The dental clinic run by the Thai Monastery Lumbini is the first fee of charge dental clinic in this area. Though first International Dental camp in Lumbini provided and innovative solution in bridging dental care to under privileged areas, they seek the cooperation of International professional organizations and 'other NGO's' in establishing a public-private partnership for their application on a large scale.

As the first International Dental camp service, our team also face many obstructions. 1 The communication between the screening doctor and the patients was too short of time since the patient has no knowledge of alternative treatment when it comes to tooth extraction. 2. Patients feel hesitant to let his teeth be removed and cannot explain his feeling to the foreign doctor. 3. Filling was not available due to heavy instrument to carry from Thailand 4. Root canal or restoration was not available due to time consuming procedure. 5. Preventive care was not efficiently conducted.

On the last day our team went to the universal college of Medical Science, Bhairahawa and has discussed the problem we faced and created a joint communication network to work together in education and services. Some of our dental unit have been donated to the dental faculty for their dental camp service.

Conclusion

The study shows the International Dental Camp services which in collaborative efforts of International professional dental association, local civil society Royal Thai Monastery, Lumbini can provide an excellent opportunity for rural populations. They act as the first form of International cooperation to educate the rural population and alleviate them of their oral health care need.

Acknowledgements

I am grateful to Phra Sribodhivides, Abbot of the Royal Thai Monastery in Lumbini, Nepal for organizing this camp. I also thank all my dedicated team members from Thailand and Nepal for providing their services and support in dental camps.

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