

10 Years of Unwavering Commitment

Souvenir 2023

# Acknowledgement

It took an enormous courage for me to quit a respectable permanent job and move into the complex world of an organization dedicated to charitable service, especially when my close family and friends were against my decision because of concern for the possible difficulties I might have to face. I am very thankful to the founding board members, Senior Journalist Mr. Puru Risal, Public Health Researcher Mr. Rajesh Man Rajbhandari, Senior ENT Consultants Dr. Prakash Kumar Kafle and Dr. Gautami Shakya, Art Historian Dr. Naresh Shakya, Senior Audiologists Mr. Dharmapal Dangol, Venerable Buddhist Nun Nywanawati and Computer Graphic Artist Mr. Ashok Maharjan for believing my dream and joining the difficult journey I choose to follow.



With just a passion to help children with ear diseases and hearing problems, and without any financial plan, I was very soon confronted with the daunting task of dealing with the government officials and financial supporters. On that occasion as on innumerable subsequent occasions, Prof. Paul Fagan, St. Vincent's Hospital, Sydney came to my rescue. He showed me a path through my haze and confusions by finding a sponsor to support the initial 50 ear surgeries. Without his support at the very beginning, this would, at best, have remained a pedestrian effort. I am thankful to government officials of the Ministry of Health and Ministry of Education, especially Mr. Shiva Kumar Sapkota who saw my potential when I had nothing to demonstrate.

After overcoming initial problems, the school-based ear health program was born with the combined support from Dr. Neil Weir BRINOS, Venerable Ani Choying Drolma Aarogya Foundation, Bidur Dangol Vajra Publications and Nidan Hospital. I am so grateful to all of them for entrusted me when no one else believed. Thank you for your invaluable support. Late Prof S. C. Mishra, one of the pioneers in this field played a very important role in starting Ear Care Nepal by introducing me to this field and who remains one of the great influences in my life. I am extremely thankful to Dr. Suspana Hirachan, the sole person who encouraged me, and thereby, instilling confidence in me to start this journey when entire world seemed against it.

A special thanks to Samsara Nepal for its unconditional support right from the very beginning. This work would not have been as successful without your continuous support. Rotary clubs have always been a great supporter of Ear Care Nepal. I am particularly thankful to Rotary Club of Potomac Bethesda, Rotary Club of Kathmandu Mid-Town, and Rotary Club of Livermore for their unwavering assistance in reaching our goal. I am indebted to Direct Relief for extending its support to not just in relief work but also understanding the long-term impact of chronic ear and hearing problem in children's education, and overall in their lives.

Ear Care Nepal is extremely grateful to Ripa Siddhi Sangathan for the unflinching support they provided in accomplishing our mission "Prevention of Hearing Loss", especially in children from remote Himalayan regions and monastic environments. I feel so blessed to have His Eminence Gyetrul Jigme Rinpoche in my life and feel indebted to him for his guidance and kindness. As emphasized by him, a little kindness and social responsibility can make this world a better place. I will forever be thankful to Rinpoche for establishing and funding the Ear Care Nepal-Ripa Referral Center, and arranging funding for our school-based programs, which has benefited thousands of underprivileged children with ear and hearing problem. Mr. Alan Goldstein, through his positive encouragement and constructive advice has contributed immensely towards rendering this work successful. He has been one of the pillars I have leant on often, always ready to help. My sincere and heartfelt gratitude to you Alan La.

Volunteers played a crucial role in advancing our mission, this milestone would not only have been difficult to reach, but would also have been half the fun to carry out without wonderful volunteers. I would like to thank all the volunteers from Nepal and around the globe who took out time regardless of their busy schedule to help Ear Care Nepal.

Relations developed while going through thick and thin together are possibly the strongest. It is, therefore, not surprising that the support I received from my family and friends has been unconditional, without their support and their willingness to put their best foot forward in times of need, this would have been impossible.

A special mention is due to the wonderful children, who are the main subjects of this entire work. Without their even comprehending it, they had such an overwhelming role to play in accomplishing our mission.



## **ABOUT EAR CARE NEPAL**

Ear Care Nepal (ECN) is a non-profit organization established in July 2013 by a group of ENT surgeons and intellectuals with the objective "Prevention of Deafness, Promotion & Conservation of Hearing in Nepalese Children". ECN solely conducts school based ear health programs in community and Buddhist monastic schools of Nepal. It operates a school screening program for identification of diverse ear diseases and hearing loss, and provides primary ear and hearing care education to all the children and their teachers for prevention of deafness. It also conducts ear surgeries for elimination of ear disease and restoration of hearing.

In Nepal, 16.6% of the population suffer from hearing loss and 7.4% have been found to have middle ear pathology. In children, however, 55.2% of hearing loss is found to be caused by chronic ear infection. Lack of trained specialists, awareness about the disease, limited access to health care and difficult terrain are few of the causes for the high prevalence of ear disease and hearing loss in Nepal. Hearing impairment is particularly serious in children because it can lead to communication difficulties, delayed educational progress and social isolation. Early identification and timely management can prevent hearing impairment in children and subsequently reduce the social and economic burden in the society. Ear Care Nepal's focus is to help this underprivileged group of children to overcome their disability without them or their families incurring any financial burden.

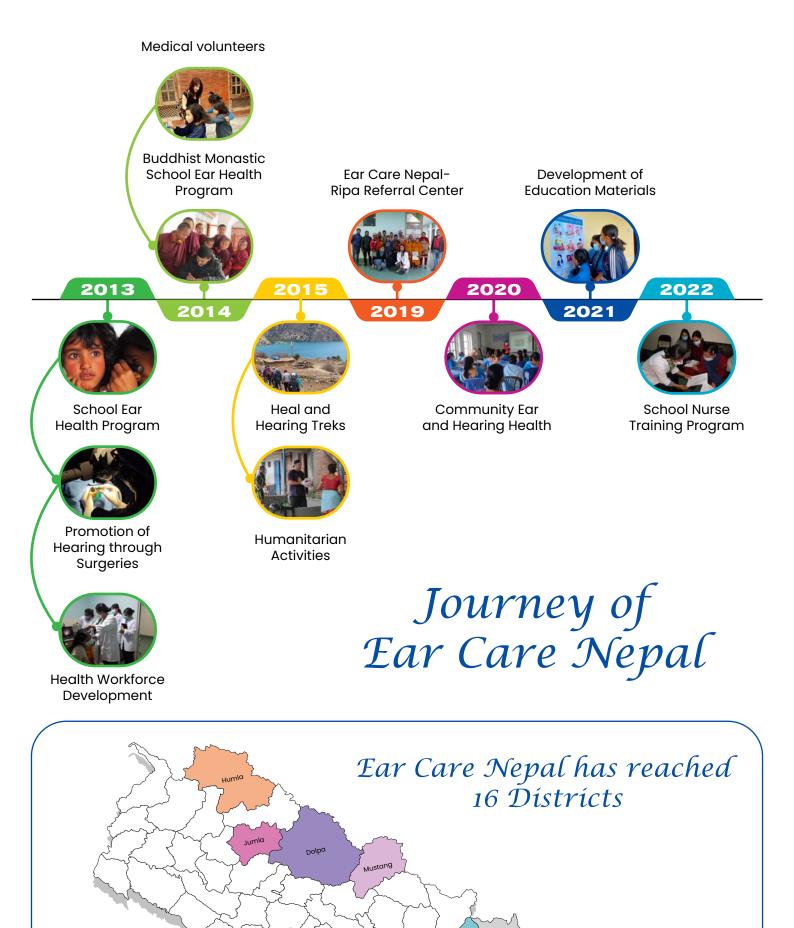
## OUR GOAL

"Prevention of Deafness and Promotion & Conservation of Hearing in underprivileged children of Nepal"

## **OUR OBJECTIVES**

- 🖁 To conduct "School Based Ear Health Programs in Community and Buddhist Monastic Schools of Nepal
- ${f C}$  Screen children for early detection of ear diseases and prevent hearing loss
- ${f C}$  Provide ear and hearing care education to children, teachers and guardians
- 🖁 Provide medical and surgical care for restoration of hearing
- ${\mathbb C}$  Provide hearing aid and rehabilitation when ear surgery is not possible
- $\P$  Conduct training and awareness programs for health workers to prevent hearing loss





| ि Car Care Nepal<br>हार केयर नेपाल | FCHV/ Community Ear &<br>Hearing Training | as screened, 7 134  | s during last<br>nd 2023) with<br>21 students # of # of<br>municipalities communities<br>visited covered   | ernment of <b>2156</b><br>al statistics<br>e more than<br>ith 7,391,524<br>ed.  | has serverd<br>and 0.48% of<br>ts.<br>ts.<br>regular basis using cotton buds<br>or scoops. | the students<br>ated and<br>Female and<br>otal students<br>and 15 years<br>infections.  | Powered by D4Nepal |
|------------------------------------|---|---|--|---|--|---|--------------------|
|                                    |   | Ear Care Nepal has screened,<br>treated and educated more<br>than <b>112,199</b> students at more | than <b>609 school</b> s during last<br><b>11 years (2013</b> and <b>2023</b> ) with<br>an average of <b>221 students</b><br><b>per school</b> . | As per the Government of<br>Nepal educational statistics<br>(2017), there are more than<br>35,601 schools with 7,391,524<br>enrolled. | Ear Care Nepal has serverd<br>1.26% of schools and 0.48% of<br>students.                   | More than half of the students<br>screened, treated and<br>educated were Female and<br>more than <> of total students<br>were between 11 and 15 years<br>old.   |                    |
|                                    | Gender<br>All                             | Students with Ear and<br>Hearing Problem<br><b>19.2% (21,545)</b>                                 | Avg. Number of Students Screened,<br>Treated and Educated per School<br><b>221</b>   |   | Bintian  | 5053 2503<br>50 267'6 262'6 2502  |                    |
|                                    | Year Month<br>All                         |   | Avg. Number of<br>Treated and Ec   |   | A  | 2022 v<br>2020  |                    |
|                                    | Year Quarter<br>All                       | Students with Normal<br>Findings<br><b>60.6% (68,028)</b>   | Screened, Treated<br>er Month  | Star III  | Trend  | 5019 8,538 8,745 17,343<br>2018 8,584 8,838 2013<br>2018 8,838 7,245 17,343<br>2018 7,122 17,343<br>2019 7,122 17,343<br>2019 7,122 17,343<br>2019 7,125 17,445 17,45   |                    |
|                                    | Year Yea<br>All All                       | Number of Schools served<br><b>609</b>  | Avg. Number of Students Screened, Treated<br>and Educated per Month<br><b>1,275</b>  | Nepal   | uttar<br>adesh<br>Aale   | 5012 <b>3</b> <sup>252</sup><br>5015 <b>4</b> <sup>60</sup><br>5045 <b>5</b> <sup>133</sup> <b>5</b> <sup>252</sup><br>5075 <b>5</b> <sup>123</sup> <b>5</b> <sup>252</sup>   |                    |
|                                    | Select from the prompt:                   | Students Screened, Treated<br>and Educated<br><b>112,199</b>                                      | Avg. Number of Schools<br>Served per Month<br><b>6</b>   | A STAND   | © 2023 Mapbox © OpenStreetMap  | 2014 4,928 8,716<br>0K 1,827<br>2013 0, 8,716<br>1,827<br>1,827<br>1,827<br>1,827<br>1,827<br>1,827<br>1,827<br>1,827<br>1,658<br>1,827<br>1,658<br>1,827<br>1,658<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,928<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1,938<br>1, |                    |



According to WHO, 60% of hearing loss in children below 15 years of age is due to preventable causes. In children, hearing loss of even 15 decibel can lead to delayed language development and educational progress. School based health programs are one of the most efficient programs for the prevention of disease through awareness and early diagnosis. Screening of hearing loss in children provides the opportunity to detect a child's hearing status, provide treatment to improve hearing or limit further loss, and to improve learning.

Ear Care Nepal conducts School-based Ear Health Programs in Government run schools of Nepal. ECN is the only organization is Nepal that conducts extensive school-based ear health programs, which makes ECN stand out from other institutes. Screenings are done in classrooms, where students are examined by an Ear Nose and Throat Surgeon and findings recorded. Minor ear problems such as aural toileting – the removal of wax and foreign body; and medical treatments are primarily managed at the time of screening. In a designated silent room, a trained ear assistant evaluates the hearing of children using a pure tone audiometer. Pure tone air conduction thresholds of four frequencies 500, 1000, 2000, and 4000Hz are measured and documented. In another classroom or common hall, children, teachers and parents are educated about ear and hearing care using education materials developed by ECN. Children who require further management are listed, informed to the school principals and respective parents to follow-up at Ear Care Nepal-Ripa Referral center for further management.

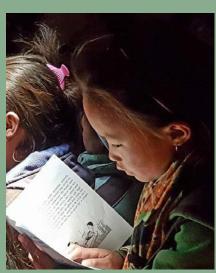
Since its establishment, ECN has reached out to 542 community schools of Nepal and screened, treated and educated 106,418 children for ear diseases and hearing loss.



















As Ear Care Nepal's motto is, "Reach the Unreached", Ear Care Nepal has been extending its services to another muchneeded population; young monks and nuns residing at Buddhist monastic schools of different parts of Nepal. Buddhist monastic schools are traditional schools that are set up in Buddhist monasteries spread Children throughout Nepal. who attend these schools are predominantly of Tibetan origin and hail from remote Himalayan regions of Nepal. Road access to these regions are very limited and accessibility is largely restricted to walking trails through difficult terrain.

Monastic school ear health program consists of three integral parts; **Screen, Treat** and **Educate**. We screen and treat children for ear diseases and hearing loss, and educate about ear and hearing care.

There is high prevalence of diseases and hearing ear impairment in these children. Remote geographic locations, limited health care facilities, lack of awareness about ear diseases, poor nutrition and hygiene, and the deprived socioeconomic status contributes to high prevalence of ear diseases among these children. ECN has screened and treated 5,781 of these children for ear diseases and hearing loss.

















# Heal and Hearing Treks



















In Nepal, 86% of the population lives in rural area. Within just 200Km, Nepal's topography changes from the flat plains to the highest Himalayan range. Being nature enthusiasts, we have not only seen its beauty but also the hardships that surpasses it. The 'Heal and Hearing Treks' program is focused to reach out to these most underprivileged children from remote rural Himalayan areas of Nepal.

Medical teams consisting of a Audio-technician Doctor, and Ear Assistants treks days from school to school carrying medical equipment, providing primary ear care education and treatment for ear problems. Children with minor ear problems are treated on-site with free distribution of medicines and those children who require surgical interventions are referred and managed at the Ear Care Nepal -Ripa Referral Center in Kathmandu. Ear Care Nepal has been conducting at least two of these mobile ear health programs annually in different rural parts of Nepal. Similarly, ECN has also lead a mobile ear surgical camp in Jumla in collaboration with the Karnali Academy of Health Science where 28 major ear surgeries were performed.

Till date, ECN have screened and treated 9,037 children from 6 mountainous districts of rural Nepal. According to our findings, the prevalence of ear disease and hearing impairment is high in these children, with about 10.83% of them found to have ear and hearing problems. Awareness about ear health, economic status, lack of medical facilities and difficult access to health care could be few risk factors resulting in high prevalence of ear disease and hearing loss in rural Nepal.



Nepal Government started the Female Community Health Volunteers (FCHV) program in 1980s, and the program has been the backbone of the health care system, especially in preventive care. To date, there are more than 50,000 volunteers, educating villagers through health promotion and delivering health services. Their contribution is exemplary within the community and as a result, the villagers trust to share their stress, health issues, and grievances with FCHVs.

While schools remained closed for indefinite period due to Covid 19 pandemic, ECN started training of the FCHVs in ear and hearing care. The ECN team were able to utilize this period to create awareness about ear and hearing health in the community through these health volunteers. ECN has been fortunate to be able to start training and awareness about ear and hearing health to the FCHV community.

An ECN team comprised of an ENT surgeon and Ear Assistants conduct one day educational and awareness programs at the particular ward of the municipality, with participation of about 10-15 FCHVs at each training session. Training is provided using audio-visual education materials such as power points, animated videos, and awareness songs about ear and hearing care. At the end of the program, animated booklets and educational posters about ear and hearing care, and a certificate of participation are handed out to all the participants. Because of the excellent response and demand from the community, ECN has been continuing the program. Since the start of the program in 2020, 2,156 health volunteers from 134 communities have been educated about primary ear and hearing care.

















The Ear Care Nepal – Ripa Referral Center was established in 2019 with support from the Swiss Ripa Foundation under the guidance of Gyetrul Jigme Rinpoche with the objective of providing tertiary level ear health facilities, which are accessible to underprivileged children of rural Nepal with ear and hearing problems. The center is located on the 4th floor of Star Hospital in Lalitpur, and is well equipped for outpatient and inpatients services, all under one roof. Five spacious rooms and a waiting area are allotted for the referral center, which consists of one large fully equipped sixbedded ward with attached toilet and a bathroom for pre and post-surgical care, one sound treated room to conduct hearing evaluations and speech rehabilitation, one procedure room equipped with a portable microscope and two rooms serving as office cum meeting rooms.

After screening students at school for various ear diseases and hearing problems, children with more serious disease needing hospitalization and further treatment, or requiring ear surgeries or hearing aid fitting are asked to come for free follow-up at our referral center. Procedures such as the removal of ear foreign body and wax, medical management, microscopic evaluation, hearing aid fitting, confirmation of hearing loss in the soundproof room, dressings, speech therapy and ear surgeries are managed by a group of senior competent medical team. Surgeries are performed at the modular operating theatre of the Star hospital. Children who need surgery remain admitted to our ward for at least 3 days. The Six-bed ward assigned to ECN is a clean and safe place for children to recover after surgery. After discharge, children are followed up under a standard protocol.

Children coming from rural parts of Nepal now have a place to stay while they are recovering from surgery thus reducing the cost of accommodation and daily travel while they receive tertiary level care. Since the functioning of the referral center from July 2019, a total of 5,031 children from community schools and Buddhist monastic schools from different parts of Nepal have received one of the best tertiary level ear care services free of cost. The establishment of the referral center has been extremely beneficial, functioning as a tertiary level care center for the neediest hence enhancing ECN's outreached services.



























Before the era of antibiotics, ear infection used to be associated with dreadful consequences, Hippocrates had observed, "acute pain of the ear with continued fever is to be dreaded, for there is danger that the man may become delirious and die." Development of antimicrobials in the twentieth century made it easy to control ear infection, and then with development of the operating microscopes in later days made ear surgeries more effective than ever before. Ear surgeries if performed on time not only improves hearing, but also prevents life threatening complications and further deterioration of hearing.

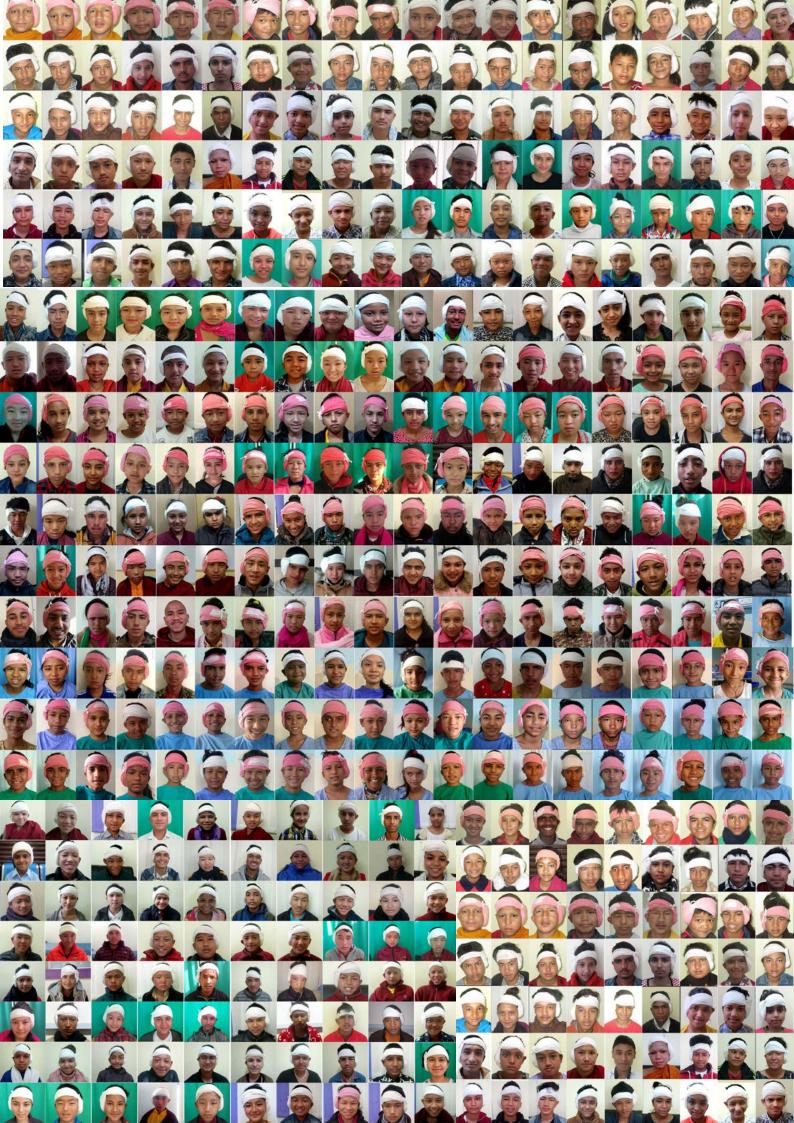
After initial screening for ear diseases at their respective schools, children who needed surgical interventions are referred to Ear Care Nepal-Ripa Referral Center. Consultant ENT surgeons reevaluate the children and respective parents are counselled about ear the surgery; its benefits and possible complications. Following initial pre-operative preparations, a medical team consisting of senior consultant ENT surgeons, competent consultant anesthesiologists and a senior nurse perform the surgeries. The modular operating theater is equipped with the most advanced medical facilities including Leica Wild operating microscope. Following ear surgery, children recover in a clean and safe six-bed ward allocated especially for ECN. Since its establishment, Ear Care Nepal team have performed 945 major ear surgeries giving safe and better hearing to the most needy children. Ear surgeries ECN regularly performs includes Mastoidectomy, Atticotomy, Tympanoplasty, Ossiculoplasty, Myringoplasty, and Ventilation tube insertion.











Apart from the main objective "Prevention of Deafness in Nepalese Children", Ear Care Nepal has contributed to society through many other humanitarian activities during the course of natural disasters and emergencies. Following 2015 earthquake in Nepal, the ECN team lent its hands by distributing relief materials such as water purifiers, food, medicines, Oral rehydration solutions, tents, mosquito nets, and sanitary materials to the victims of earthquake in various areas of Lalitpur, Kavrepalanchowk and Sindhupalchowk. Many of the government schools were seriously damaged by the earthquake, leaving many children unable to go back to school. During this period, ECN helped 10 community schools in the Lalitpur and Kavrepalanchowk districts in constructing Temporary Learning Centers (TLC), till they had their school buildings repaired and reconstructed.

For self-sustainability, ECN started selling intricately designed hand crafted handbags, clutches and purses made from environment friendly materials such as banana fiber, hemp, Nepali handloom cotton and recycled tyre tubes to raise funds for our work. A portion of the sales go to making the products and the remaining go to maintaining the organization, which in turn benefits children of government schools with ear problems.

Deafness is an invisible disability, and deaf people are neglected and discriminated against. They are often regarded as dumb, stupid and useless by society. Despite progress in laws and policies to promote disability rights, teachers have yet to be trained to promote inclusive education. Tens of thousands of children still remain out of school due to lack of trained teachers for the deaf. In an effort to support these children, ECN has provide support to six deaf and blind children and one teacher in Disable Service Association School.

One of the reasons why ear problem remain untreated and unattended in Nepal is due to geographic terrain and poor road infrastructure, which makes health care inaccessible to people living in remote areas. A Medical vehicle gifted by the Government of India has enabled us to reach out to children in their own community schools and fulfill our mission to "Reach the Unreached". Students of Kasthamandap Art Studio created a colorful work of art on the vehicle making it more appealing for the children as well as depicting who we are and what we do.

Since its establishment, ECN has been celebrating World Hearing Day on March 3rd every ear to raise public awareness about ear and hearing problem performing different activities such as rallies, flash mobs, screening programs, media briefings and publishing articles in national newspapers.



















In Nepalese children about 55.2% of the hearing loss is due to preventable causes which could have been prevented through awareness about the disease. Educating children, their parents and teachers about ear and hearing care can prevent the majority of hearing loss; therefore, Ear Care Nepal has developed its own education materials about ear and hearing health.

Audio-visual communication can have a dramatic impact in children because it uses of both the sight and hearing together, enabling them to grasp more difficult concepts with greater ease. ECN has designed its own animated video, colorful short storybook and posters, PowerPoints, and animated booklet about ear and hearing health. We have also composed and recorded an awareness song titled "Nepal Ma Bahiropaan", trying to explain the existing ear problems and which further suggests the precautions needed to avoid common ear and hearing problems in Nepal. The song is sung in the Nepali language by the famous Nepali folk singer Barta Gardharva.

These educational materials are utilized to educate children about ear and hearing health as a part of school ear health programs. ECN team members educate all the children using PowerPoint presentations on basic anatomy and the physiology of the ear and hearing, common ear problems and their prevention, animated videos and an awareness song about ear and hearing health. Animated booklets are distributed to every student, which also ensures spreading awareness to other family members when they bring it home. We also equip school libraries by providing copies of cartoon comic books regarding ear health education, which are accessible to every child at school. Posters on primary ear care are placed at common areas of school that are visible to the children, teachers and other staffs. These educational materials are also posted regularly in social media platforms such as YouTube, Face Book, Instagram and our official website to spread the message about ear and hearing health to a wider audience.



Lack of trained medical personnel is one of the causes of the high prevalence of ear and hearing problem in Nepal. To overcome this, Ear Care Nepal has been developing skilled workforce resources such as Community Ear Assistants. ECN provides training to Health workers such as Staff Nurses, Auxiliary Health Workers and Health Assistants, which enable them to diagnose and treat common ear diseases. ECN has developed its own training manual based on the World Health Organizations' "Training manual on Primary Ear and Hearing Care for health workers". This three-month intensive training course is comprised of basic anatomy and physiology of ear and balance, diagnosis and treatment of common ear diseases, proper use of an otoscope, and evaluation of hearing using a pure tone audiometer.

In 2020 Nepal Government started a pilot project "One school, One nurse" to provide healthcare services to students and staff. In order to enable school nurses to a have keen eye about the symptoms of ear diseases and hearing loss and to follow up with the children with ear and hearing problem, ECN started training programs focusing on the school nurse. One-week intensive training includes basic anatomy and physiology of hearing and balance, diagnosis and management of common ear diseases using an otoscope and referral of children with ear diseases that could not be managed at site. ECN believes that we can help achieve our goal to reduce treatable hearing loss by educating and equipping the school nurses who continuously attend to the children, even after the completion of the ECN team's school screenings. At the end of the program, school nurses are provided basic screening equipment such as an otoscope, probe and a tuning fork. Since then the school nurses diagnosed several children with ear diseases and referred to our referral center for further management. To date, ECN has trained thirteen health workers making them competent to diagnose and treat common ear diseases and evaluate hearing.



Medical Internship in Nepal is an ideal platform for international medical and nursing students to learn more about diseases that are less commonly observed at their home country. It gives them a great opportunity not only to learn about different approaches practiced in resource-limited situations but also a great opportunity to understand local culture and people. It is regarded by many as a highlight of the medical school curriculum.

Ear Care Nepal have been participating in International medical student internship programs in collaboration with University Laval, Quebec, Canada. Medical and nursing students visit Ear Care Nepal as a part of their final year community internship program. During their internships, students get an opportunity to visit community schools and Buddhist monastic schools and participate in screening children for ear and hearing problems while also engaging in educating children about importance of nutrition and hygiene. Besides clinical exposure, they also learn about the diverse culture of Nepal, and gain a better understanding about health systems in resource-limited conditions. ECN also have had medical volunteers visiting from many countries including the United States of America, Great Britain, Germany, Canada, France and Spain helping us in reaching our goal prevention of hearing loss in Nepalese children.



Volunteerism is one of the most selfless acts that one can become involved in, every person can make a difference, and therefore everyone should try giving back to our society. Volunteers do not necessarily have the time; but they have the heart and they work without any financial gain. This is not because they are worthless, but because they are priceless. Our volunteers are our strength; Ear Care Nepal could not have been successful in pursuing our mission without the support of our volunteers. ECN has had volunteers from all around the globe, including Spain, France, USA, Australia, Hong Kong, Germany, Canada, Estonia, Russia, China and Holland.



Deafness is an invisible disability, and regardless of high prevalence rates in Nepal; very little research has been done in this field. The last nationwide survey on deafness was conducted in 1991, and subsequently no other study covering a larger population has been conducted to evaluate the burden of hearing loss in Nepal. Ours is the first and largest study ever conducted on prevalence of ear diseases and hearing loss in school aged Nepalese children, which makes ECN's work pioneering in the field. Ear Care Nepal has conducted studies on topics such as the prevalence of hearing loss in school-aged children, Ear-wax and associated hearing loss in children, results of tympanoplasty in children, and prevalence of chronic otitis media in children from Himalayan regions. With dedication and hard work, the ECN team have published five articles in prestigious peer reviewed high impact international medical journals.



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Brief Report

# Ear Wax and Hearing Impairment in Children in Nepal

### Abstract

The presence of wax is a common finding during ear examination of children and it is one of the main causes of avoidable hearing impairment in children. The objective of this study was to find out the prevalence of wax in ear and evaluate the hearing loss in school-aged children. This is a cross sectional school-based study conducted over a four-year period. Children aged 5-16 were examined by otoscope and pure tone hearing thresholds were obtained at 0.5, 1, 2, and 4 kHz frequencies. A total of 53,970 children from 312 schools of Kathmandu valley were screened. The prevalence of ear wax was 34.64% (n=18697) and hearing impairment associated with wax was 0.88% (n=475). Ear wax and associated hearing loss is a common problem in Nepalese children. Lack of trained personnel and the costs involved in its treatment makes ear wax a big challenge for Nepal's rudimentary health care system.

## Milan Maharjan, Samjhana Phuyal, Mana Shrestha, Rosy Bajracharya

Department of Otology, Ear Care Nepal, Jawalakhel, Lalitpur, Nepal "Alone we can do so little; together we can do so much"- Helen Keller. It is because of the teamwork that Ear Care Nepal has been able to achieve outstanding results in a very short period and accomplish our goal of the "Prevention of Hearing Loss in Nepalese Children". This would have been impossible without the hard work and dedication of the entire ECN team. ECN team is comprised of open-minded medical and non-medical staff from various backgrounds including ENT specialists, medical officer, registered nurses, program coordinators, field coordinators, accountant, helpers, and a driver. As quoted by Michael Jordan, "Talent wins games but teamwork and intelligence wins championships" and teamwork has been essential for achieving our goal towards a society free of hearing loss and its detrimental effects.





**Dr. Milan Maharjan** Founder / Chairperson



**Mr. Puru Risal** Vice-Chairperson



Dr. Gautami Shakya Treasurer



Venerable Nyanawati Member



Mr. Rajesh Man Rajbhandari General Secretary



Dr. Prakash Kumar Kafle Member



Mr. Dharmapal Dangol Member

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