

A TWILIGHT THROUGH THE DARKNESS OF PANDEMIC YEARS AT NATIONAL INSTITUTE OF EAR, NOSE AND THROAT (NIENT)

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On 30 January 2020, WHO DG Dr. Tedros Adhanom Ghebreyesus declared the COVID-19 outbreak a Public Health Emergency of International Concern.^{1,2} Because it was a starting with a horrific and difficult prediction of a disease almost unknown to the human race. An uncanny feeling not only in the health sector but almost everywhere was prevailing. Immunization by vaccination was then the utmost desire of the world. Immunization is the process whereby a person is made resistant to an infectious disease, typically usually by the administration of a vaccine (WHO). The agent in a vaccine stimulates the body's immune system to recognize the agent as foreign, destroys it and remembers it. WHO and a number of countries gave emergency approval to a number of vaccines.^{3,4}

- ChAdOx1 nCoV-19 Corona Virus Vaccine (Recombinant) (COVISHIELD) was initially introduced.
- Then mRNA -1273 by ModernaTX
- Inactivated COVID 19 vaccine BIBP (Beijing Institute of Biological Products) developed by China National Biotech Group (CNBG), Sinopharma. Product name is SARS CoV 2 Vaccine (Verocell).
- Pfizer-BioNTech COVID-19 is an mRNA vaccine, manufactured by a German Biotech company in collaboration with Pfizer multinational pharmaceutical and biotechnology corporation of USA.

All these vaccines had adverse events following immunization (AEFI). An AEFI is any untoward medical occurrence which follows immunization and which does not necessarily have a casual relationship with the usage of the vaccine. The adverse event may be any unfavorable or unintended sign, abnormal laboratory finding, symptom or disease.¹ At NIENT, vaccination was started on 7 February 2021 along with rest of the country. A team was ready to manage AEFI. The situation was under close monitoring. In the earlier period of time out of 850 recipients 211 suffered from mild to severe AEFI in case of Astrazenca vaccines. But serious outcome was only one. In case of Moderna vaccines, out of 155 almost 132 had mild to severe AEFI. Here also serious AEFI had one only. Verocell vaccines had AEFI 7 out of 82. No serious AEFI reported at NIENT following Verocell vaccines.

In Germany, out of the 599 participating healthcare workers, 72.3% were females, and 79.1% received mRNA-based vaccines while 20.9% received a viral vector-based vaccine.^{5,6} Among the participants 88.1% reported at least one side effect. Injection site pain was the most common (75.6%) local side effect, and headache/fatigue (53.6%), muscle pain (33.2%), malaise (25%), chills (23%), and joint pain (21.2%) were the commonest systemic side effects. The vast majority (84.9%) of side effects resolved within 1-3 days post-vaccination; the mRNA-based vaccines were associated with a

higher prevalence of local side effects (78.3% vs. 70.4%; Sig.=0.064) while the viral vector-based vaccine was associated with a higher prevalence of systemic side effects (87.2% vs. 61%; Sig.<0.001). Females and the younger age group were associated with an increased risk of side effects either after mRNA-based or viral vector-based vaccines.

In response to the raging COVID-19 pandemic, Bangladesh started First Dose of Oxford-AstraZeneca's Covishield vaccine administration in early 2021. Pain at the site of injection, fever, myalgia, fatigue and headache were the most commonly reported symptoms, and the overall side effects were found to be significantly more prevalent in the younger population. In addition, a significantly higher percentage of female participants suffered from post-vaccination side effects compared to males (Chi square test 7.486 at df 2, p=0.0237).

At NIENT, only 32% reported with AEFI of 1087 recipients. Though majority was minor AEFI but serious also existed. As WHO says "2020 saw the world unite against the virus, from small personal gestures to protect others, to international collaboration on research and innovation. This year ends with COVID -19 vaccines rolling out – an extraordinary feat."

This pandemic taught us how unprepared we are for situations like these. Now it is a need we prepare ourselves to deal with future epidemics. Together we face together we fight.

References

1. WHO website.
2. A year without precedent: WHO's COVID-19 response, 23 December 2020. [who.int/news](https://www.who.int/news)
3. Bulletin of the World Health Organization.
4. Newsletter of World Health Organization , published on 7th May 2021.
5. Shrestha S, Devbhandari RP, Shrestha A, Aryal S, Rajbhandari P, Shakya B et al. Adverse events following the first dose of ChAdOx1 nCoV-19 (COVISHIELD) vaccine from in the first phase of vaccine roll out in Nepal. *Journal of Patan Academy of Health Sciences* 2021; 8(1): 9-17.
6. Adhikari P, Adhikari K, Gauli B, Sitaula D. Acceptance of COVID-19 vaccine and pattern of side effects in Nepalese context: a post-vaccine cross-sectional study among health care workers in a tertiary care hospital. *Journal of Chitwan Medical College* 2021; 11(36): 34-38.