Child India

September 2022

Monthly e-Newsletter of Indian Academy of Pediatrics

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DR SHEILA S MATHAI (SERVICES)

CONTENT

Editor's Note

Dear friends,

Greetings from Child India.

In this issue we focus on vaccinology which is important as immunization is the cornerstone of public health policy and is definitively one of the cost-effective strategies for improving IMR and under-five morbidity and mortality. Vaccines have transformed public health, particularly since national programmes for immunization became properly established and coordinated. The World Health Organization estimates that 2–3 million lives are saved each year by current immunization programmes, contributing to the marked reduction in mortality of children less than 5 years of age globally from 93 deaths per 1,000 live births in 1990 to 37 deaths per 1,000 live births in 2020.

This issue has a few articles on the immunology of vaccines. We thank all contributors for their contributions.

Happy reading.

Jai IAP, Jai Hind

Yours in IAP service,

Dr Narayanan M.

Editor

President's Address

Dear friends and colleagues,

Greetings on Children's Day to all of you working for the children of our country.

This issue of Child India is intending to refresh our knowledge about the immune basis of vaccines.

Immunisation is one of the most cost-effective health interventions known to mankind. The dreaded killer disease small pox has been eradicated and we are at the threshold of eradicating polio

The Indian Academy of Pediatrics publishes the Guide Book on Immunisation. It is meant to guide vaccination efforts in India, taking into account the disease prevalence, health priorities, and resource allocation possible. 'IAP ACVIP' has formulated guidelines on the most optimum way of using available licensed vaccines in the country to provide best possible protection to an individual child in an office practice setting.

We need to be updated in developments in the exciting field of vaccinology and I am sure this exercise will be invaluable

Regards and wishes,

Jai IAP, Jai Hind

Dr Remesh Kumar
National President, IAP 2022

Secretary's Message

Dear Friends,

"If you want to be enthusiastic, act enthusiastic."

A month of September was an academic feast for all our colleagues. I am pleased to inform you that we have successfully organised IAP West Zone Pedicon at Rajkot Gujarat and IAP North Zone Pedicon at Deharadun, Uttarakhand, this month. Also, IAP Neurology Chapter, IAP Neurodevelopmental and IAP Bangalore branch successfully organised their annual conferences with a huge response from the participants. I have been thrilled to see the teamwork, enthusiasm and coordination between our youngsters of IAP fraternity during these events.

IAP Election for the year 2023 has been announced this month. The notification of the same has been sent to all our esteemed members through mass mail and also published on the IAP website. This is the first time IAP has started using the e-nomination form method for IAP elections this year. On behalf of CIAP, I request all our esteemed eligible members to participate in this process of democracy.

We have conducted meetings of various IAP subcommittees via video conferencing in the month of September for smooth coordination and functioning of the CIAP office., i.e. IAP e-voting, IAP Election Commission, IAP Ped Card Committee etc. Also, a meeting of State Academic Coordinators and Zonal Coordinators of IAP NRP FGM program was held in Delhi on 24th September 2022 with a plan to know the future prospectus of NRP program and targets related to courses.

Indian Academy of Pediatrics actively participated in the noble initiative of the Ministry of Health and Family Welfare (MOHFW) Govt of India to eliminate the need for replacement blood donors and an effective national blood system that mandates universal and timely access to safe blood. Many branches of IAP voluntarily conducted comprehensive mega blood donation camps across the country on 17th September 2022.

Along with this, Indian Academy of Paediatrics conducted workshops on the following modules under the Presidential Action Plan 2022. 6 Workshops of Pediatric Emergency Care & Resuscitation Training Module (PECART), 5 of Demystifying Allergic Disorders (DAD), 6 of Pyrexia of Infection & Non-Infection (POINT), 7 of Ped Gastro, 7 of Pulmostar, 1 of use of Medications in Pediatrics (UMP) & 1 of Growth & Puberty- A Challenging Journey-Pediatric Endocrinology Module, 5 of Perinatology - Caring both ends of the Cord.

About the NTEP and ECD, A total of 183 workshops of NTEP have been successfully conducted. In September alone, we conducted a total of 6 workshops. A total of 88 workshops of ECD have been done till date, and 11 workshops of ECD if September 2022. This month total of 48 Basic NRP and 11 Advanced NRP provider courses have been successfully conducted.

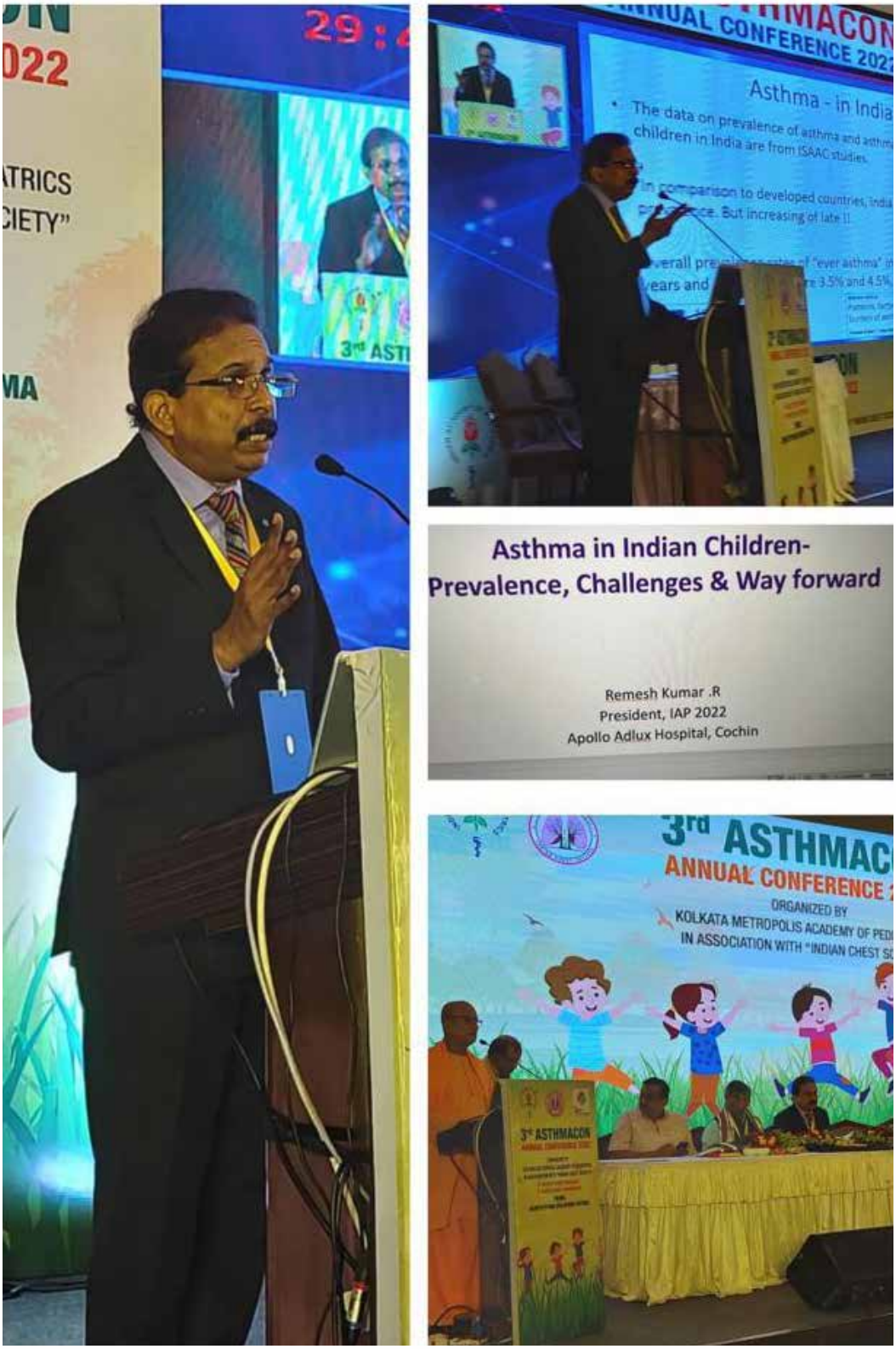
On behalf of IAP, I urge you to organize various activities in the best interest of the health and welfare of the country's children.

Long Live IAP, Jai IAP

In service of Academy,

Dr Vineet Saxena
Hon. Secretary General 2022 & 23

President's Engagements



Delivering Oration at Asthmacon in Kolkata

President's Engagements

Attended 6 activities of 6 branches in Punjab and Haryana - Aug 20th and 21st

President's Engagements

Inauguration of 46th annual conference of IAP TNSC at Kodaikanal - August 26th

President's Engagements

Dr Remesh honoured at Bangalore Pedicon 2022

President's Engagements

Inauguration of Bangalore Pedicon 2022 September 3rd and delivering plenary session

President's Engagements

Dr Remesh at the 19th NCDP Conference at Kolkata on 3rd September

President's Engagements

At Kolkata on Sept 3rd for 19th NCDP Conference and in Jharkhand on September 4th NTEP at Hararibagh and DAD module at Ranchi

President's Engagements

Inaugurating Neuropedicon at Srinagar on 10.9.22

Felicilated at Neuropedicon

President's Engagements

Faculty at Perinatology module at Rothak, Fever module at West Delhi and PULMOSTAR at North Delhi on September 11th

President's Engagements

CME on Essentials of Perinatology

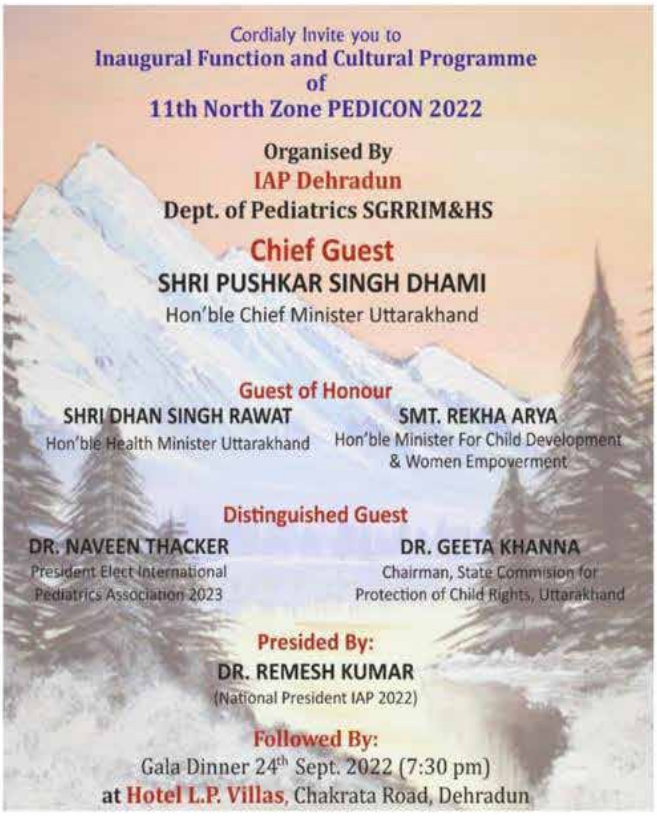
President's Engagements

At West Zone IAP Conference at Rajkot Sept 17th

President's Engagements

At Rajmundri AP for PULMOSTAR module September 18th

President's Engagements



At North Zone Conference at Dehradun organised by IAP Uthrakhand

Vaccines and Basic immunology

DR SHEEJA SUGUNAN
Associate Professor, SAT Hospital,
Government Medical College, Thiruvananthapuram

In clinical practice immunization often presents with various challenges as patients sometimes present outside the recommended interval or age. Need for multiple vaccination on the same day, children with chronic diseases, congenital and acquired immunodeficiency also cause dilemmas. It is important to know the 'whys' regarding various immunization principles. Knowledge of basic immunology regarding vaccination often helps in taking a scientific and rational decision when faced with a dilemma.

How vaccines work

Once a vaccine is administered it is usually taken up by antigen presenting cells like B lymphocytes, dendritic cells or macrophages and taken to the regional lymph nodes. In the regional lymph nodes if it is recognized by the B lymphocytes it leads to production of antibodies mainly of IgM type and a small amount of IgA and IgG. If the vaccine is also recognized by T lymphocytes (protein vaccines/conjugated vaccines) it helps the B lymphocytes to migrate to the germinal center create a germinal center reaction and convert themselves to plasma cells and start producing a large number of IgG antibodies. It also leads to production of memory B cells. After sometime the plasma cells die off , but some of them escape to the bone marrow niches and produce persistent low level of antibodies. Memory cells of coming in contact with the antigen in future immediately converts itself to plasma cells and start producing large quantities of antibodies.

Clinical application of knowing how vaccines work

1. It helps us understand that as soon as a vaccine is administered it does not produce an antibody response it takes 10 -14 days to produce reasonable amount of antibodies.
2. After a period of time antibody producing plasma cells die off leading to fall in antibody titer often below protective levels and hence boosting is often needed in killed vaccines.
3. Vaccines which do not stimulate the T cells (polysaccharide vaccines) do not produce memory cells so revaccination with these vaccines do not lead to boosting of titers.
4. Booster doses after primary series lead to rapid rise in antibody titers in case of conjugate and protein vaccines.

Vaccine schedule

Babies secrete very little immunoglobulin before birth as the fetus grows in a sterile environment without much antigenic stimulation. Babies receive maternal antibodies of the IgG type through the placenta from 14 weeks of gestation. These maternal antibodies are found to transiently suppress the immune response to vaccines like diphtheria, tetanus, pertussis, Men C and Hib. This interference lasts for 6-10 weeks.

Hence DPT vaccine is recommended at 6 weeks of age.

Antibodies against measles is found to interfere with vaccine immune response for upto 9 months of age. Measles being a live vaccine can be easily destroyed by the maternal antibodies. Hence measles vaccine is given after 9 completed months. In fact more children respond to measles vaccine at 12 months than at 9 months but countries where Measles is endemic prefer to vaccinate at 9 months as many would get infected if it is delayed till 1 year of age.

OPV is given at birth as it is not neutralized by the IgA present in breast milk and being an oral vaccine it is found to prime the individual for better response to future doses of OPV or IPV. BCG mainly stimulates the cell mediated immunity. Cell mediated immunity is neither transferred from mother to fetus nor inhibited by the presence of maternal antibodies and hence it is given at birth.

Vaccine Boosters

It is important to complete a vaccine schedule to acquire robust immunity. In case of killed vaccines the initial doses often acts as sensitizing doses. After the booster dose individuals acquire high antibody titers of good quality. This happens because as time passes the memory B cells in the germinal center undergoes affinity and avidity maturation.A minimum of 4 months is needed for this and hence booster doses should be given at a minimum interval of 4 months after the primary series. It is also the reason why most killed vaccines follow the schedule of 0,1,6 month where 0 and 1 month dose acts as primary doses while 6 month dose acts as the booster.

PRINCIPLES OF VACCINATION

Interrupted schedules

Memory cells once formed remain in our body. As interval between vaccines increase there is affinity and avidity maturation of antibodies leading to more efficient neutralization of antigens, hence once a schedule is interrupted there is no need to restart vaccination you can start from where stopped. Only exception is oral Typhoid vaccines.

Minimum Interval between same killed vaccine

Two same Killed vaccines must be given at an interval of minimum 4 weeks as shorter interval will lead to interference of successive waves of immune response. Giving a second dose even before memory cells are formed after first dose will result in decrease in levels of total antibody levels attained. In fact longer intervals lead to better antibody titers. Any vaccine taken more than 4 days before the recommended age or interval is considered invalid and needs to be repeated.

Exception Rabies vaccine

Multiple vaccines on the same day

Multiple vaccines do not overwhelm the immune system. Capacity of immune system is enormous. Any number of vaccines may be given on the same day. Human body is capable of responding to up to 10,000 vaccines on the same day. Each vaccines contain multiple proteins. The number of proteins in each vaccines are different eg. MMR vaccine has 24 proteins, while some DwPT have 3000 proteins. Immune systems need stimulation to develop well. Vaccines help to stimulate and strengthen the immune system. Allergies may result from too little immune stimulation in cleaner environments.

Exception- Pneumococcal conjugate vaccine and Menactra (meningococcal conjugate vaccine) should not be administered on the same day as coadministration may result in a decreased immune response to some of the pneumococcal serotypes. In this situation PCV 13 must be given first followed by Menactra 4

weeks later. Both these vaccines are conjugated to Diphtheria Toxoid which interferes with the immune response.

Interval between different killed vaccines

Different killed vaccines may be given at any time before any vaccines. Killed vaccines cannot be neutralized by the innate immunity. Being killed they persist in the body and elicit an immune response. Moreover killed vaccines mainly go to the regional lymphnodes, different vaccines will be taken to different group of lymphnodes depending on the site of administration.

Interval between Live vaccines

Two live injectable or nasal vaccines should be separated by an interval of 4 weeks if not given on the same day. This is because when a live vaccine is administered it mimics a natural infection and spreads to the whole of the body eliciting a robust immune response. As a result of this if a second live vaccine is administered at an interval of less than 4 weeks it may be neutralized by the innate immunity stimulated by the first vaccine.

This is not applicable to live oral vaccines like polio vaccines which mainly acts by eliciting local immune response in the gut mucosa.

Vaccines and adverse events

Incase of live vaccines the frequency of adverse events falls with number of doses. If previous dose has resulted in an antibody response, it will neutralise the small amount of vaccine virus in any subsequent vaccine dose.

In case of inactivated vaccines on the other hand frequency of adverse events like local pain , redness and fever often increase with increase in number of doses. This is because if antibody levels are good following previous vaccination, the antibody binds to the vaccine antigen in a subsequent dose of vaccine, and produces a good secondary immune response which, if big enough, may be inflammatory.

Vaccine Failures

All vaccines are not 100% immunogenic. The causes may include host factors like immunodeficiency, concomitant infection, malnutrition etc or product factors like quality and efficacy. Primary vaccine failure is when an individual fails to make an immune response to the initial vaccination. Around 15% of individuals vaccinated with Measles vaccine have primary vaccine failure when administered at 9 months of age.

Secondary vaccine failures are often seen in killed vaccines like Diphtheria and pertussis where the individual initially makes adequate immune response but over time the antibody to titers decrease making the individual susceptible to infection. This is the reason we give periodic boosters.

Herd Immunity, Herd Effect & Vaccinology

DR SAGAR S KULKARNI (MBBS, DCH, DNB)
Children Hospital, Garkheda
Aurangabad, Maharashtra

Every life matters. With efforts being put to prevent preventable diseases, the basic understanding of science of immunology related to diseases and vaccinology is a must for strategic planning of preventive services. One of the important concepts in this is herd immunity and herd effect. The terminologies of herd immunity and herd effect though overlap, but are distinct.

Herd Immunity : It is the immunity against an infectious disease in a population either through vaccination or immunity developed through previous infection or a combination of both. Herd immunity is also known as population immunity.

HI = Population protected by vaccine+ Protected by infection.

Herd effect : Incidence reduction of a disease among non-vaccinated members when a good proportion of population is vaccinated. Seen only for infections where humans are the source.

Herd effect is determined by herd immunity as well as the force of transmission of the corresponding infection. Herd immunity is applicable to any infection irrespective of its transmission pathways, but herd effect is when only it is person to person and when immunisation gives some protection against infection and not merely against disease.

Is Herd immunity permanent?

Herd immunity is calculated in a population at a particular time. Herd immunity achieved is not permanent. Waning of immunity is noted both after natural infection and after vaccination. Passive immunity in a new born because of maternal antibodies are also a part of herd immunity at a particular point of time but will eventually wane off . So herd immunity threshold peak achieved might lower down either because of waning immunity and if there is no natural boosting or because of decreased vaccination coverage, example is immunity against mumps disease, pertussis. With change in circulating strains or mutations observed in viral or bacterial diseases, immunity achieved earlier might not be protective against the new circulating strains. Examples of this is immunity against flu or covid infections. New birth cohort is being added to population which also lowers herd immunity unless and until immunity is achieved in them. Immunosuppressed and those on immunosuppressive drugs might lose the immunity achieved . Elderly do not respond because of immunesenesence and so cannot achieve target level to be part of herd immunity and might lose achieved immunity fast.

Herd immunity-is it for viral or bacterial diseases?

It can be for viral diseases example measles, rubella, mumps, covid as well as for bacterial diseases example pertussis, hemophilus influenzae. But we have to understand that immunity can be for infection and disease or can be for only disease, and infection along with transmission can continue as is seen with covid infection. Another example is polio. Those immunised fully with parenteral polio vaccine will be immune to paralytic polio disease but since mucosal immunity is not permanent they might still be susceptible to infection. Amongst bacterial diseases also it can be for the prevalent serotypes like in case of pneumococcal disease, but if the prevalent serotype changes as is known as replacement disease the herd immunity , herd effect might not work. In fact herd immunity itself can sometime act as an evolutionary pressure on pathogens, influencing evolution of organisms , encouraging the production of novel strains/ escape mutants as seen in antigenic drifts and shifts. These then erode herd immunity & infect previously immune individuals.

Herd effect is for which diseases ?

It is applicable only to those diseases which are transmitted from humans to humans. Example is pneumococcal disease. Vaccination prevents nasopharyngeal carriage which will prevent spread of bacteria to other susceptible population which are of non-vaccinating age like newborns or elderly.

But if the disease is not transmitted from humans to humans, or when humans are not the reservoir of infectious agent, herd effect is not applicable. Example is tetanus, which is transmitted by spores present in soil. So even if majority of population is immunised the remaining will remain susceptible. Similar is case with Japanese encephalitis which is not transmitted between humans directly. Any individual which is not immune due to natural infection or is unvaccinated will not be protected by herd immunity. Vaccinations which don't provide protection against infection will not be able to give herd effect. Protection against disease will protect that individual only. Higher the vaccination coverage higher will be herd effect, lower the coverage , lower will be the herd effect against human to human transmissible diseases.

Is Herd immunity measurable?

Immunity is dependant on multiple factors and is a complex interplay between these. It can be antibody mediated, T cell mediated, T cell mediated antibody production, memory cells, cytokines etc. So immunity cannot be calculated sometimes just by measuring a single factor. But if a correlate of protection is established and measurable then herd immunity can be calculated/measured. Example is hepatitis-A in which assuming the cut off level of antibody > 20 m IU/ml , herd immunity i.e population immune either by natural infection or by vaccination can be calculated at a particular point of time. But many times correlate of protection is elusive as in the example of tuberculosis. In this it is difficult to measure population immunity. Sometimes in diseases which are newly introduced in society for example in covid infection the exact correlate of protection is not established and hence population immunity cannot be determined.

What is the percentage level of immunity which needs to be achieved to say that herd immunity level is achieved?

This level is different for different diseases. It has been determined in few diseases . In general terms for those diseases which are highly infectious the herd immunity percentage needed will be higher. Example for measles the level needed is 95 %, for chicken pox it is 90-92 %, but for it is only 80 % for polio, & approx. 62% for diphtheria. In many diseases the exact level is not known . This is an important area of research and

will likely vary according to vaccine, community, populations prioritized for vaccination and many other factors.The cumulative proportion of individuals who get infected during the course of a disease outbreak can exceed HIT (Herd immunity threshold). HIT does not represent the point at which disease stops spreading, but rather the point at which each infected person infects fewer than one additional person on average.

Herd immunity calculations are research and mathematical calculations involving basic reproduction number Ro. Low Ro values are associated with lower HIT (Herd immunity threshold) & high Ro is associated with theoretical high HITs. If vaccination does not confer solid immunity against infection to all recipients, the threshold level of vaccination required to protect a population increases. If vaccination protects only a proportion E among those vaccinated (E standing for effectiveness against infection transmission ,in the field),then the critical vaccination coverage level should be Vc = (1-1/Ro/E). We can see from this that if E is < (1-1/Ro) it would be impossible to eliminate an infection even by vaccinating the whole population. Similarly waning vaccine induced immunity demands higher levels of coverage & regular booster vaccination.

Cocconing effect/ Indirect immunity/ Ring vaccination –How do they differ from herd immunity and herd effect?

Cocconing strategy refers to vaccinating only close contacts or care givers of susceptible individual to give indirect protection from infection. Ring vaccination refers to vaccinating a defined target subset of population in surrounding area to contain infection. While the terminologies of herd effect and herd immunity are used for whole population of a geographic region or country or even to the whole world especially when vaccine is used in public health mass vaccination programmes.

Is this herd immunity level helpful in planning vaccination strategies?

For diseases where correlate of protection is known and herd immunity level needed is established, vaccination strategies are planned accordingly and coverage of vaccination can be targeted. Example is measles eradication programme. High coverage and to sustain that high coverage is of utmost importance in measles eradication programme. Another example will be Hepatitis-A . Based on seroprevalence in a population and incidence of transmission, vaccination strategies can be planned by a country. Boosters are required to maintain herd immunity in cases of disease with waning immunity. If disease has ceased to exists then natural boosting will not occur & only sustaining vaccination is way out. If targets of herd immunity & vaccination percentage required are not achieved , it might cause epidemiological shift of age for that disease and worsen the scenario as seen in Rubella. Measles , mumps cases in university students & pertussis cases in adults are amongst examples of the consequences of accumulation of susceptible individuals who have not been protected by vaccination & escaped infection because of herd immunity effect earlier in their lives. Infection later in life & in adults can be severe and serious. If herd immunity has been established and maintained in population for sufficient time, the disease is inevitably eliminated, transmission stops and even eradication of organism can occur. In areas where herd immunity is not achieved by routine immunization ,other strategies like pulse immunization programmes are required and continued ex.Polio. Herd immunity is often accounted for when conducting cost benefit analysis of vaccination programme. Financial savings to individuals, to health care providers, to country also are benefits arising out of herd effect/herd immunity.

Antivaccination menace and herd immunity

Individuals who chose not to get vaccinated (the reasons for which are varied and multiple) are a problem in achieving herd immunity threshold. Opposition to vaccination or opposition to mass vaccination is often a challenge in achieving HIT , allowing preventable diseases to persist in community with inadequate vaccination rates. In todays globalization and mixing of global population, achieving herd immunity in whole world is practically very difficult but offcourse can be achieved by efforts put in by whole global community.

Do all types of vaccine give herd effect if disease is transmissible from human to human ?

No. Example of this will be effect of vaccines in those diseases where nasopharnygeal carriage is responsible for spread, example pneumococcus, meningococcus. Unconjugated polysaccharide vaccines do not have a effect on nasopharyngeal carriage and therefore will not contribute to acheiving herd effect, but on the other hand conjugate vaccines will prevent nasopharygeal carriage and therefore give herd effect. Also vaccines should be able to induce high antibody levels for preventing nasopharygeal carriage more than the levels for preventing bacteremia in these diseases. Even toxoid vaccines like diphtheria does not eradicate nasopharyngeal carriage and therefore cannot give herd effect. BCG vaccine is another unique example where the vaccine is not fully effective in preventing primary infection even in the vaccine recipient and hence will not give herd immunity or herd effect to population.

Is Effectiveness of vaccines linked to herd effect provided by vaccines?

Effectiveness is calculated when vaccine is used in public health programmes in whole population and is combination of multiple factors which are efficacy, coverage and herd effect. So any vaccine which will give herd effect and which will protect the unvaccinated individuals will give more effectiveness. Many a times the person cannot be vaccinated because of lack of studies , or because it is contraindicated in them like in immunosuppressed or because of age restrictions. In all these situations herd immunity will play a major role in protecting the susceptible ones.

Is herd immunity absolute ?

Herd immunity calculations are basically related to establishment of correlate of protection. But calculations of correlate of protection itself is multifactorial, even against a single infectious agent. Example as in pneumococcal disease, the protective levels of antibodies required for preventing bacteremia are lower than level of antibodies required for preventing nasopharyngeal carriage, pneumonia and otitis media. Antibodies might be able to prevent severe disease and deaths but might not be able to prevent transmission like in covid and flu. Also functionality of antibody and quantification of antibody levels used for measurement of herd immunity might not correlate. There are few situations like in polio or in typhoid where a large inoculum dose can overcome the herd immunity. And hence herd immunity is not absolute and can still be overcome. On the other side antibody levels might fall in population over a period of time but the population might still be immune because of other factors like T cell immunity which is difficult to measure or in cases of diseases where memory cells play a major role in diseases with long incubation period.

Is vaccinating individuals just for the purpose of achieving herd immunity targets justifiable ?

Vaccination is generally for killer diseases. But subset of populations and immunity in them and resulting morbidity and mortality might not be same. For example covid in children is having less fatality rates and achieving herd immunity just by vaccinating children in which vaccines utility is debatable, and is not thought be useful by many experts. Also in those diseases where immunity by infection or vaccination is very short lived or will not be useful in view of constantly changing strains like in flu, achieving herd immunity by mass vaccinations to whole population cannot be justified unless and until pandemic like situation arises. Also many vaccines cannot be given to whole population like in just born babies, elderly, pregnant women, immunosuppressed population and in those age groups where safety was not studied and thus it will not be possible in achieving herd immunity in all infectious diseases.

Is it justifiable to achieve herd immunity by letting individuals get exposed to disease?

This concept is not at all justifiable. Because individuals might be subjected to risk of mortality and also severe morbidity and this will pose a serious ethical issue especially in situations where a safe and effective vaccine is available for use. Herd immunity and herd effect both are not relevant for vaccination of an occasional individual, but both are relevant for mass vaccination & in public health intervention. Individual should protect himself by vaccinating himself & not be dependant on indirect protection given by herd immunity.

To summarise- Prevent what can be prevented. Herd immunity and herd effect play a major role in protecting the susceptible ones. Each precious life lost will be a setback in our efforts to alleviate sufferings of humankind. Herd immunity & maintainance of high vaccine coverage implies a long lasting programmatic responsibility to the public.

IAP Jabalpur

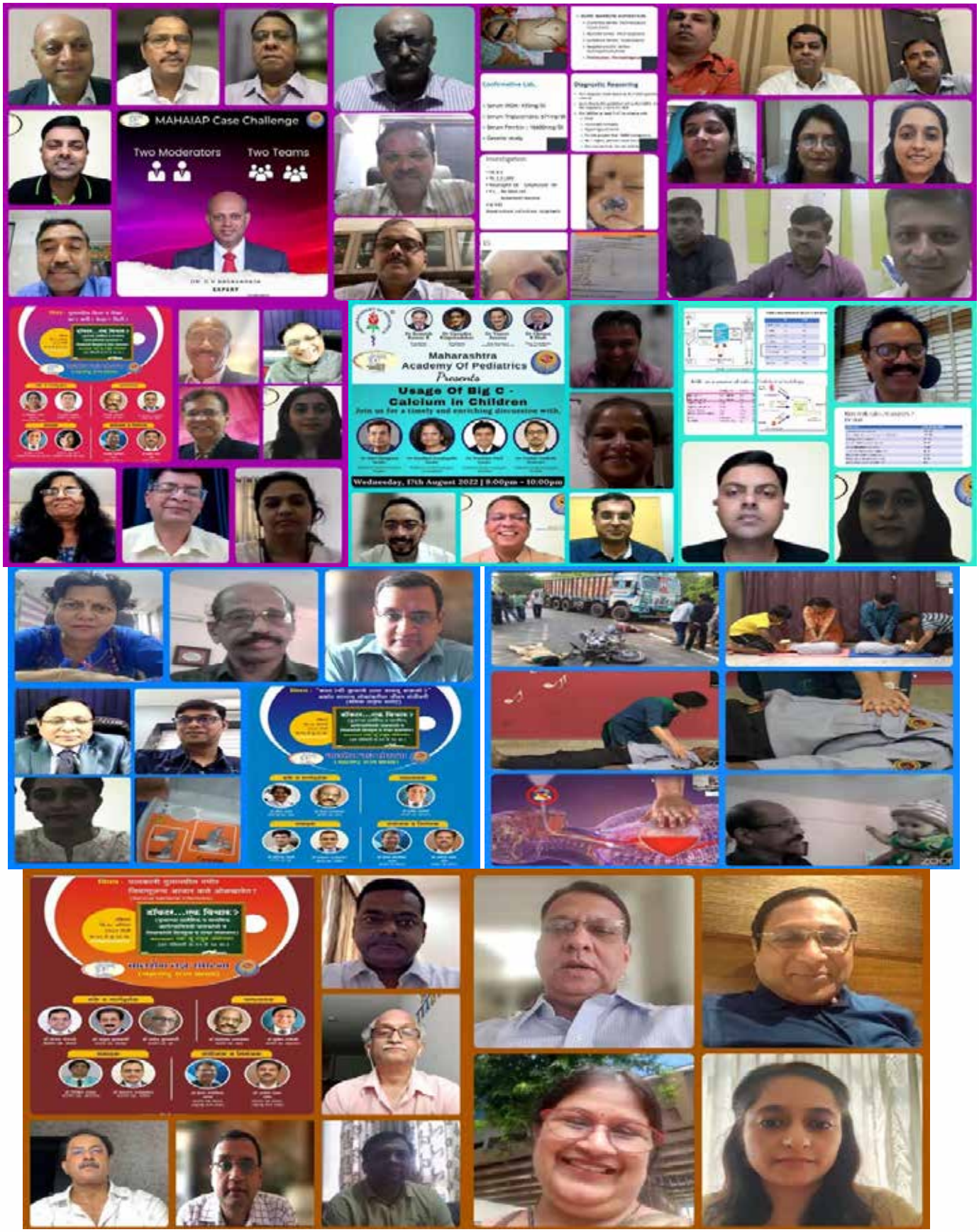
Jabalpur Academy of Pediatrics conducted IAP Action Plan UMP module on Aug 28th

IAP Maharashtra

IAP Maharashtra

IAP Maharashtra

IAP Maharashtra

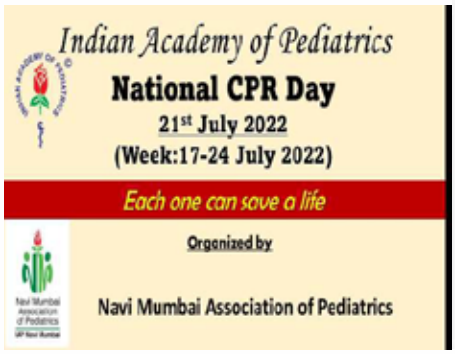


IAP Maharashtra

Academy of Ped. Neurology (AOPN)- Maharashtra Branch Installation Ceremony & National CME of Ped. Neurology 2022 in PUNE

IAP Navi Mumbai









IAP Navi Mumbai

ACADEMIC –

1. **2nd September 2022** – **Post Graduate Clinic** at Apollo Hospital in Co-laboration with NMIAP
   Experts – Dr. Y K Ambdekar, Dr. S Balasubramaniyam, Dr. Srinivasan
   https://us02web.zoom.us/j/83884813066?pwd=eTR3d1YxZ3hkZW9wTGpIR2N2T2Jvdz09
2. **6th September 2022**- **IAP Subspeciality Series**
   Topic – Developmental Disorders in Children
   Speaker – Dr Roopa S (Complex ADHD & Assessment)
   https://us02web.zoom.us/j/86202587068?pwd=Wno3NE5ZQmJQRVVtUU9RTWFZZGtHZz09
3. **11th September 2022** – **DAFPAL CME (Dr Athavale Foundation & Pediatric Alumini of LTMGH in Collaboration with NMIAP)**
   Topic- Challenging cases in pediatric infectious diseases
   Panelist – Dr. Upendra Kinjawdekar, Dr. Amol J.

   Topic – Antibiotic Stewardship, From Policy to Practice
   Dr Armida Fernandes Oration – Dr V N Yewale

   Topic- Vit D Deficiency, Role in Infection and Immunity
   Speaker – Dr Amit Saxena

   Topic – Polio Lessons learnt and the way forward
   Speaker – Dr Dhanya D

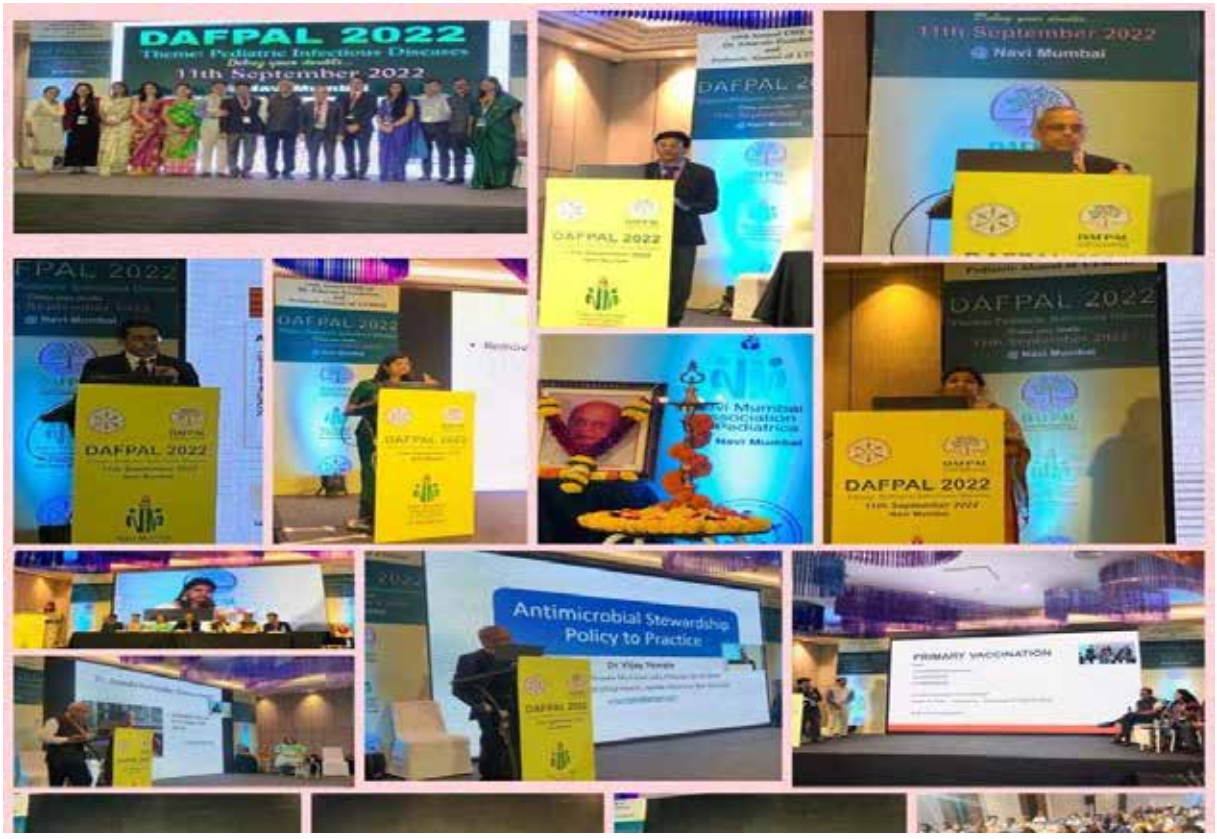
   Topic – Vaccination Update
   Moderators – Dr Jeetendra G, Dr Satish S

   Quiz – By Dr Gargi Chapekar
4. **17th September 2022** – **Global Symposium on Pertusis and Polio**
   Moderator – Dr V N Yewale
   https://india02.sanofi-asia-virtualevents.com/isp-vac170922/
5. **21st September 2022** – **IAP Raigad** - **CME**
   Topic – Wheezing in Young
   Moderator – Dr Sagar Warankar

IAP Navi Mumbai

https://us02web.zoom.us/j/87156059635?pwd=S2ovT0dsaWJETktML2PZWxnV3NsQT09

6. **23rd September 2022**- **Post Graduate Clinic** at Apollo Hospital in Co-laboration with NMIAP.
   Experts – Dr. Y K Ambdekar, Dr. S Balasubramaniyam, Dr. Srinivasan
   https://us02web.zoom.us/j/86370343609?pwd=L2pvNkZCWEczM2dQVZwRy9sd0dKQT09



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SOCIAL -

1. Prescribing pattern for acute diarrhea in children, A survey of pediatricians of Maharashtr India – A study conducted by **Dr Vikram Patra, Dr Jeetendra Gavhane, Dr Priyanka Amon** via an online survey and was published in indexed journals.
2. Speech Delay – Let's Talk, A parent awareness video circulated **by Dr Leena Deshpande**. https://youtu.be/5CiWF5dqTTE
3. **MGM Hospital** in association with **Eyemax Hospital Nerul** and Seawoods residents association conducted a **blood donation camp** on 4th September.
4. **NMAP Secretary Dr Satish Shahane** has taken sessions on **Malnutrition ,it's early detecti and prevention** at a very prestigious institution, The National Institute of Public health an training at Panvel which is epicentre of ICDS program Western India. This informative session was very well received by all the Anganwadi Sevikas and a pledge was taken to eradicate all kinds of malnutrition from our community. The session was in collaboration with Sri Satya Sai Sanjeevani hospital, Kharghar.
5. **Dr Stanley Plotkin, legendary vaccinologist** has publicly posted review (screenshot belov on Dr Jacob T & Dr Dhanya D, Qeios (preprint) paper on polio. https://www.qeios.com/read/2VCB2P
6. **Dr Dhanya D & Dr Sujith C**, article was published **Indian Pediatrics Journal** on the topic o **Oral Faropenem**- Implications on antimicrobial resistance & its effectiveness in treatmen

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PG CLUB-5
STATE PRESIDENTIAL ACTION PLAN 2022
organised by
IAP Kottayam
Faculty
Prof. Dr. S. Sushama Bai
Former HOD of Pediatrics
Presenter
Dr. Gowri. S
3rd yr MD Pediatrics
MCH Kottayam
7:00 PM
Thursday, 25/08/2022

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PEDIATRICS
WAYANAD BRANCH
Mission
Pink Health Wayanad

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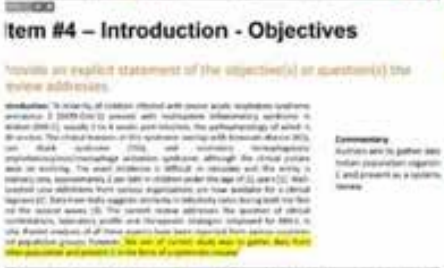
tem #4 – Introduction - Objectives


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FEATURES


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Snapcial App

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INDIAN ACADEMY OF PEDIATRICS
"NURTURING CARE FOR EARLY CHILDHOOD DEVELOPMENT (NC-ECD) PROJECT"
UNDER THE AUSPICES OF
INDIAN ACADEMY OF PEDIATRICS ACTION PLAN 2021 - 2023
ORGANIZED BY


INDIAN ACADEMY OF PEDIATRICS
INDIAN ACADEMY OF PEDIATRICS

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Neonatal Resuscitation Program
Golden Minute Project
STATE INSTITUTE OF HEALTH


Indian Academy of Pediatrics
&
National Neonatology Forum

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Study Affair
STEP UP FOR BREASTFEEDING
EDUCATE AND SUPPORT
World Breastfeeding Week 2022
PARCO
NEOBLISS
IAL VATAKARA
JEEVAMRITHAM
BREAST FEEDING SOLUTION
BREAST FEEDING EQUIPMENTS
BREAST FEEDING EDUCATIONAL VIDEOS
BREAST FEEDING COUNSELING ROOM

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AGENDA
August 1st
Venue : Conference hall
1.Welcome DrGeetha S Asso prof Pediatrics
2.InaugurationDr Binukuttan IAP Pathanamthitta
3.Key note Address
Dr Cessy Job Vice Principal GMC Konni
4.Felicitations
Dr Rajendran CV Supt
Dr S Sreelatha HOD,OBG


INDIAN ACADEMY O
PEDIATRICS


IAP PARIYARAM
NURTURING CARE - EARLY CHILDHOOD DEVELOPMENT
DISTRICT WORKSHOP

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