



**EXPLORING THE PERCEPTIONS AND READINESS OF SECOND-YEAR MBBS  
STUDENTS REGARDING NATIONAL HEALTH PROGRAMMES: A KAP STUDY**

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Article Received on 15/09/2023

Article Revised on 05/10/2023

Article Accepted on 26/10/2023

**ABSTRACT**

**Introduction:** The Indian healthcare system includes individuals and groups dedicated to meeting population needs. The Ministry of Health and Family Welfare oversees Indian healthcare, showing the government's commitment to public health. The Indian government has launched public health projects since the 1950s to combat communicable diseases, enhance sanitation, nutrition, population growth, and rural health. **Aim of the study:** To assess the knowledge, attitude and practice among second-year MBBS students about various National Health Programmes. **Material and method:** Out of a total of 250 students, only 152 students participated in the pre-test and 136 students in the post-test. The students were sensitized about the national health programmes and their objectives. Pre-test and post-test responses were collected to analyse the impact of the programmes on the student's knowledge, attitudes and practice. **Results:** The study had a male preponderance with most participants aged 19-20, followed by 21-22. Most students understood the Poshan Abhiyan program's goal of fighting malnutrition and improving nutrition. Students also recognised the need of promoting uniform immunisation campaigns through the UIP. The study also showed students' dedication to promoting the National Mental Health Programme (NMHP) and the National Vector Borne Disease Control Programme. Students recognised the importance of these initiatives in promoting mental health, destigmatizing mental illness, and controlling vector-borne infections. This study shows that medical students in India support national health programmes. The results indicate that these students are knowledgeable about the programmes and willing to help implement them.

**KEYWORDS:** Pre-test, Post-test, National Health Programmes, National Health Mission, Universal Immunisation Programme.

**INTRODUCTION**

Healthcare systems consist of individuals and organisations that strive to address the healthcare requirements of target populations. The Government of India places significant emphasis on health and wellbeing, with the Ministry of Health and Family Welfare being responsible for addressing health-related matters. In India, a series of initiatives have been taken up by the central government since the 1950s to enhance the population's overall health. One of the notable measures implemented by the central government includes the National Health Programmes (NHP). These initiatives aim to address various aspects such as the control and eradication of communicable diseases, enhancement of environmental sanitation, improvement of nutritional standards, population control, and the enhancement of rural health.<sup>[1]</sup> Several international organisations, such as the World Health Organisation (WHO), the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA), the World Bank, as well as foreign agencies like the Swedish

International Development Cooperation Agency (SIDA), the Norwegian Agency for Development Cooperation (NORAD), and the United States Agency for International Development (USAID), have been offering technical and material support in the execution of these programmes.<sup>[2]</sup> Presently, India is confronted with a multitude of challenges, including issues about food insecurity, and poverty, as well as the prevalence of both infectious and non-communicable diseases. To address these challenges, substantial financial resources as well as meticulous preparation and effective coordination are essential. Therefore, these initiatives must be coordinated and managed at the central or national level, while their execution is carried out at the state level.<sup>[3]</sup>

The National health programmes (NHP) implemented thus far encompass a range of initiatives, including the National Vector Borne Disease Control Programme (NVBDCP), Reproductive and Child Health (RCH) Programme, National AIDS Control Programme, Integrated Disease Surveillance Programme (IDSP),

National Tuberculosis Elimination Programme (NTEP), National Cancer Control Programme, National Iodine Deficiency Disorders Control Programme, National Leprosy Eradication Programme, National Mental Health Programme, National Programme for Control of Blindness, National Programme for Prevention and Control of Deafness, National Tobacco Control Programme, Pilot Programme on Prevention and Control of Diabetes, Cardiovascular Disease (CVD), and Stroke, and Universal Immunisation Programme.<sup>[4]</sup>

**The Reproductive and Child Health (RCH) Programme** is a comprehensive initiative aimed at addressing the health needs of both reproductive-aged individuals and children. The Reproductive and Child Health (RCH) plan was initiated in 1997, followed by the subsequent phase of the plan, RCH-II, in 2005. The RMNCH + A approach was initiated in 2013 to promote comprehension of the "continuum of care" concept, and to ensure equitable attention to different periods of life.<sup>[5]</sup>

**Reproductive health** encompasses several interventions aimed at promoting family planning, including the provision of contraceptives such as oral contraceptive tablets, intra-uterine contraceptive devices, sterilisation procedures, and access to abortion care. Centchroman, a contraceptive product, has been accessible in India since the early 1990s and is being commercially distributed under the trade name Saheli. The drug has been introduced in the Indian market over the past two decades as a substitute for steroidal Oral Contraceptive Pills (OCPs). Furthermore, it is distributed free of charge as part of a family welfare programme funded by the government. The medicine has demonstrated significant efficacy and safety in multiple studies, and it does not exhibit the adverse effects associated with steroidal oral contraceptive pills.<sup>[6]</sup> The National Programme for Family Planning was initiated in India in the year 1952 and subsequently incorporated into the Reproductive, Maternal, Newborn, Child Health and Adolescent Health (RMNCH + A) programme in 2013. The primary focus of the family planning programme is to attain the family welfare objectives, which include the reduction of crude birth rate (CBR), total fertility rate (TFR), and growth rate. These goals are outlined in several policy documents, namely the National Population Policy, National Health Policy, and National Health Mission. The programme's objectives, strategies, and activities are designed to align with these policy directives.<sup>[7]</sup>

**Maternal and newborn health initiatives**, such as the Janani Suraksha Yojana (JSY) implemented in 2005 and the Janani Shishu Suraksha Karyakram (JSSK) launched in 2011, are essential components of the National Rural Health Mission, now known as the National Health Mission. These programmes aim to offer incentives and high-quality healthcare services to mothers and newborns, to promote institutional delivery and ensure the well-being of both maternal and newborn populations. The INAP, or Integrated Newborn Action

Plan, was established in the year 2014 with the primary objective of eradicating avoidable deaths among newborns and expediting the implementation of economically viable measures.<sup>[8]</sup> The Dakshata initiative was initiated in 2015 to enhance the capacity of service providers to deliver high-quality childbirth services in healthcare institutions and to mitigate maternal and newborn mortality rates within the country.<sup>[9]</sup> The PMSMA initiative was initiated in the year 2016 to enhance the standard and extent of prenatal care (ANC) and encompass diagnostic procedures and counselling services. The inception of the midwifery services programme occurred in 2007, serving as a pilot initiative aimed at enhancing the education and skills of midwives and nurses who hold a crucial role in the field of maternal and newborn healthcare. The LaQshya Quality Improvement Initiative was introduced in 2017 to enhance the quality of labour rooms across the nation. The implementation of supplementing programmes during pregnancy, as well as other initiatives like deworming and syphilis screening, were introduced post-2014 as part of efforts to enhance maternal health under the framework of RMNCH + A.<sup>[10]</sup>

**Rashtriya Bal Swasthya Karyakram (RBSK)** was initiated in 2013 to conduct comprehensive screenings and provide management for children between the ages of birth and 18 years. The programme aims to identify and address various health concerns such as congenital deformities, nutritional deficiencies, illnesses, and developmental delays, including disabilities.<sup>[11]</sup>

**The Rashtriya Kishor Swasthya Karyakram (RKSK)** was introduced in 2014 by the Ministry of Health and Family Welfare (MoHFW) to enhance the well-being of adolescents. This programme focuses on various aspects of adolescent health, including sexual and reproductive health, nutrition, injuries and violence, non-communicable diseases, mental health, and substance misuse. It caters to adolescents from diverse backgrounds, encompassing both males and females, individuals residing in rural and urban areas, those who are married or unmarried, and those who are in or out of school. Additionally, RKSK places particular emphasis on addressing the health needs of marginalised and underserved groups within the adolescent population. The Ministry of Health and Family Welfare (MoHFW) initiated the Weekly Iron and Folic Acid Supplementation (WIFS) programme in 2012. This programme was designed to address the significant occurrence and occurrence rate of anaemia among adolescent girls and boys. Its primary focus is on school-going adolescents in grades 6 to 12, specifically those attending government, government-aided, and municipal schools. Additionally, out-of-school adolescent girls are also targeted by this programme.<sup>[12]</sup>

**The National AIDS Control Project (NACP)** was initiated in 1992 and has since served as the primary project dedicated to the management of HIV/AIDS in

India. The programme has undergone revisions in response to identified needs and strategic considerations, resulting in the development of NACP II (1999), NACP III (2007-2012), and NACP IV (2012-2017, with an extension until 2020). The plan successfully attained the target set by the Millennium Development Goal 2015, which aimed to accomplish a 50% decrease in both new HIV infections and AIDS-related fatalities. The program's strategies have undergone revision to enhance the scope and efficacy of AIDS-related services.<sup>[13]</sup>

**The Integrated Disease Surveillance Programme (IDSP)** was initiated in the year 2004 with the primary objective of promptly identifying and effectively responding to disease outbreaks. The inception of this programme was facilitated via the financial backing of the World Bank fund, which remained in effect until 2012.<sup>[14]</sup>

**The National Tuberculosis Elimination Programme (NTEP)** was initiated in 1962 under the name of the National Tuberculosis Programme (NTP). Following a collaborative evaluation of the plan in 1992 by the Government of India, the World Health Organisation (WHO), and the Swedish International Development Agency (SIDA), subsequent revisions were made to the programme. The World Health Organisation (WHO) declared tuberculosis (TB) a worldwide emergency and recommended the implementation of Directly Observed Treatment, Short-course (DOTS) as a treatment approach. This declaration and recommendation occurred concurrently with the revitalisation of the National Tuberculosis Control Programme (NTP), which was renamed the Revised National Tuberculosis Control Programme (RNTCP) in 1993. The implementation of the Directly Observed Treatment, Short-course (DOTS) method was initiated by India in 1997 as a treatment approach inside the Revised National Tuberculosis Control Plan (RNTCP). By 2005, the entirety of the nation had been encompassed by this plan.<sup>[15]</sup> The second phase of the Revised National Tuberculosis Control Programme (RNTCP) was initiated between 2006 and 2011, with the set targets being accomplished by the year 2007-2008. In the year 2020, the programme had a name change and was henceforth referred to as the National Tuberculosis Elimination Programme (NTEP). This is as per the goal of eradicating tuberculosis from India by the year 2025, as outlined in the National Strategic Plan for Control and Tuberculosis Elimination (2017–2025).<sup>[16]</sup>

**The National Vector Borne Diseases Control Programme (NVBDCP)** serves as the principal initiative in India aimed at the prevention and control of vector-borne diseases. The initiative was initiated between 2003 and 2004 with the amalgamation of the National Anti-malaria Programme, National Filariasis Control Programme, and Kala Azar Control Programme. In addition, the plan has incorporated diseases such as Japanese Encephalitis and Dengue. The programme encompasses many initiatives such as the National

Malaria Eradication Programme, Kala-Azar Elimination Programme, National Filariasis Control Programme (initiated in 1955 and expanded to rural areas in 1994), Japanese Encephalitis Control Programme, and Dengue and Dengue Haemorrhagic Fever control efforts.<sup>[17]</sup>

**The Non-communicable diseases (NCDs I) Programmes** encompass the National Mental Health Programme (NMHP), National Programme for Health Care of the Elderly (NPHCE), and National Programme for the Prevention and Control of Deafness (NPPCD).<sup>[18]</sup>

**The Non-communicable Diseases (NCDs II) Programmes** encompass several initiatives, such as the National Programme for Prevention and Control of Diabetes (NPCDCS), Cancer, Cardiovascular Diseases and Stroke (NPCDCS), and the Pradhan Mantri National Dialysis Programmes.<sup>[19]</sup>

**The Universal Immunisation Programme (UIP)** was initiated in 1985 with the primary goal of diminishing the incidence of death and morbidity associated with six diseases that can be prevented by vaccination. After its inception, the aforementioned initiative has undergone modifications following the prevailing requirements and aims, subsequently being incorporated under the framework of the National Rural Health Mission in 2005. Under the Universal Immunisation Programme (UIP), the Government of India officially designated the year 2012 as the year of heightened focus on routine immunisation. This declaration also included a pledge to eliminate measles by the year 2020.<sup>[20]</sup>

**The Pulse Polio Programme** was initiated in 1995 as a dedicated endeavour to address polio control and eradication, in conjunction with the Universal Immunisation Programme (UIP). As a result of persistent endeavours and effective execution, India documented its final instance of polio in 2011 and was subsequently delisted from the roster of nations considered 'endemic to polio' in 2012. In 2014, India achieved the certification of being free from wild poliovirus.<sup>[21]</sup>

For second-year MBBS students, understanding these programs is not just a theoretical exercise but a fundamental part of their medical education. Therefore, conducting a Knowledge, Attitude, and Practice (KAP) study among second-year MBBS students is crucial to assess their comprehension, attitudes, and preparedness regarding national health programs.

## AIMS AND OBJECTIVES

To evaluate the level of knowledge, attitude and Practical aspects regarding various National Health Programs among second-year MBBS students.

## MATERIAL AND METHOD

A questionnaire-based cross-sectional online study was conducted among 250 second-year medical students in the Department of Pharmacology, GSVM Medical College, Kanpur, UP. Out of 250 students, only 152

students participated in the pre-test and 136 students in the post-test. Consent was taken for the study. Students were sensitized about National health programmes after recording the responses regarding the pre-test on the NHP questionnaire. We assessed the awareness and knowledge about NHP at their level by a self-designed structured questionnaire containing 26 questions. A questionnaire link was sent to the students which was prepared via Google form. 10 minutes time duration was

allowed to submit their responses. Their responses were collected pre-discussion and post-discussion automatically via two different links on the requested email.

## RESULT

Gender and Age distribution of students during the pre and post-test have been shown in the following Figures respectively.

### Gender Distribution in pre-test and post-test

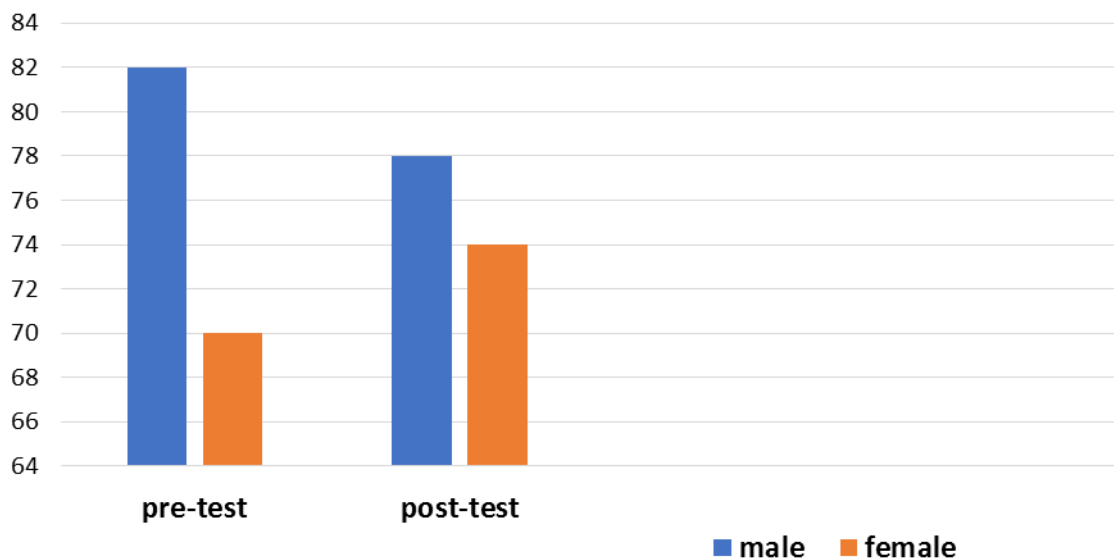


Fig: 1 Gender Distribution.

### Age Distribution of the Participants

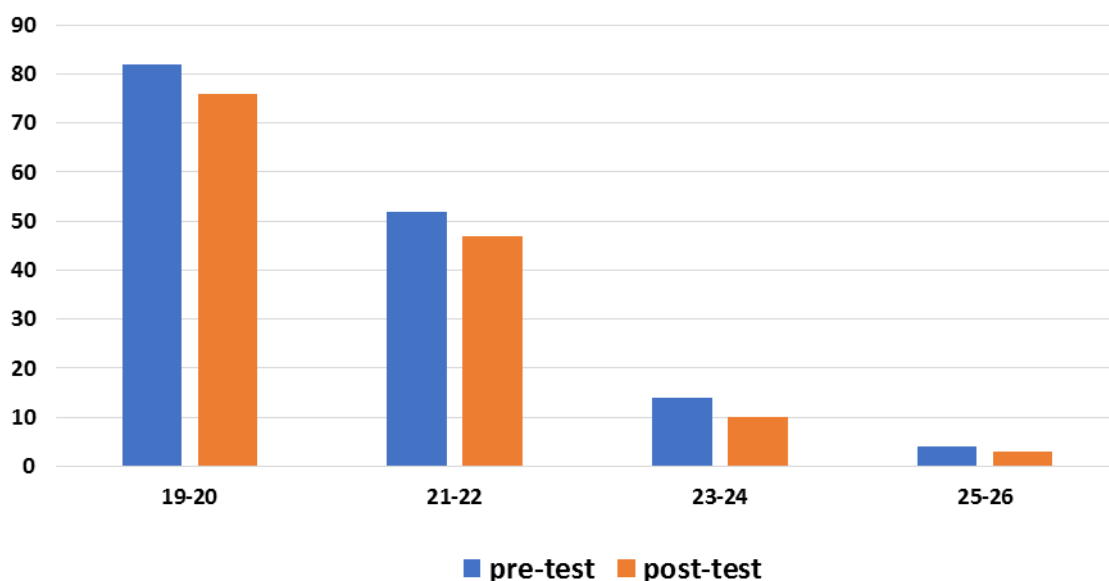


Fig: 2 Age Distribution.

146 (96.7%) and 132 (97.8%) of the students in the pre-test and post-test had already heard about National health programmes before taking the class. The sources of information regarding NHP varied among the students as the majority in the pre-test (38.2%) got informed using the internet and in the post-test (40.9%) from books as shown in fig no.3.



Fig: 3 Sources of information.

For the Question about the umbrella program that integrates the National Rural Health Mission (NRHM) and the National Urban Health Mission (NUHM), 44.7% in the pre-test and 63.4% of the students who took part in the study gave correct responses as depicted in the figure 4 below

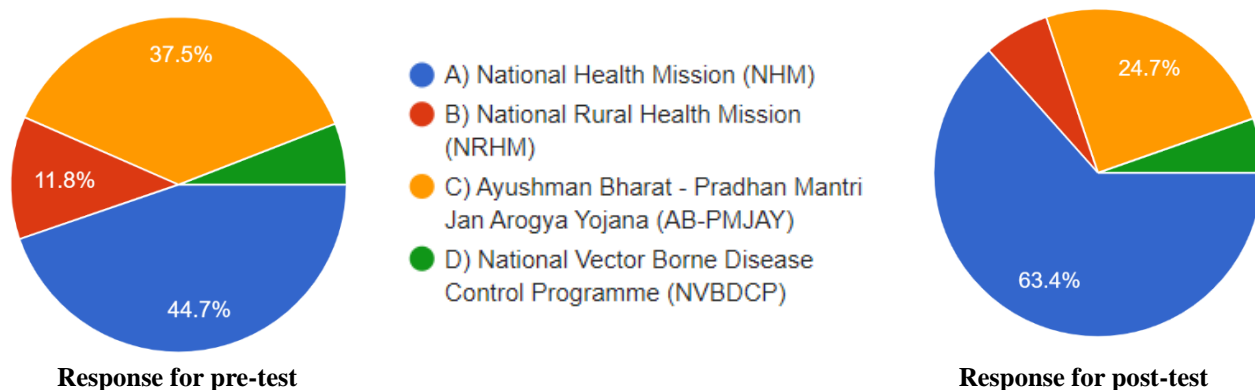


Fig: 4 pre and post-test response

The majority of the students in the pre-test (60.5%) and post-test (65.6%) already have the idea that the National Health Mission (NHM) has a strong emphasis on strengthening public health systems and infrastructure as shown in fig no 5.

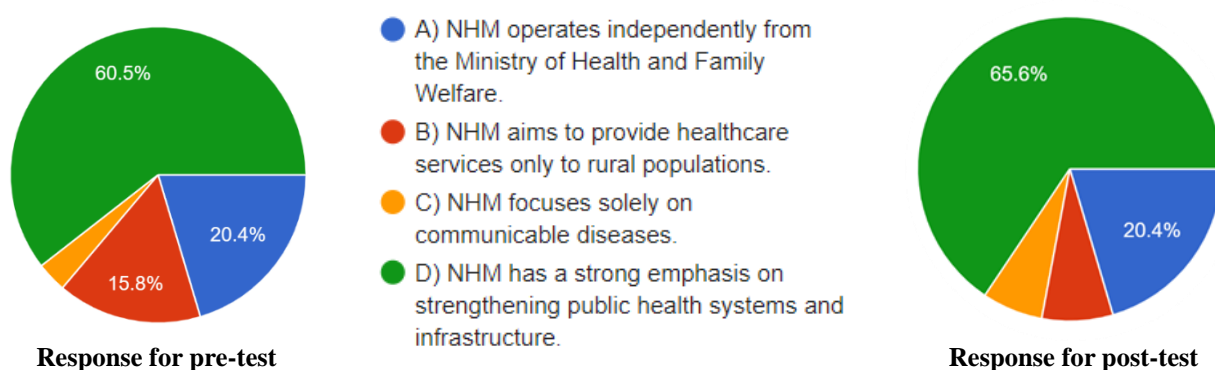
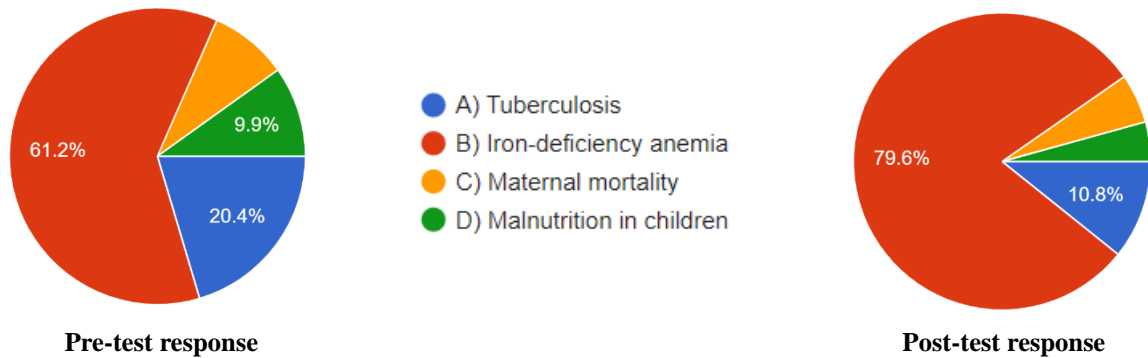


Fig: 5 pre and post-test response.

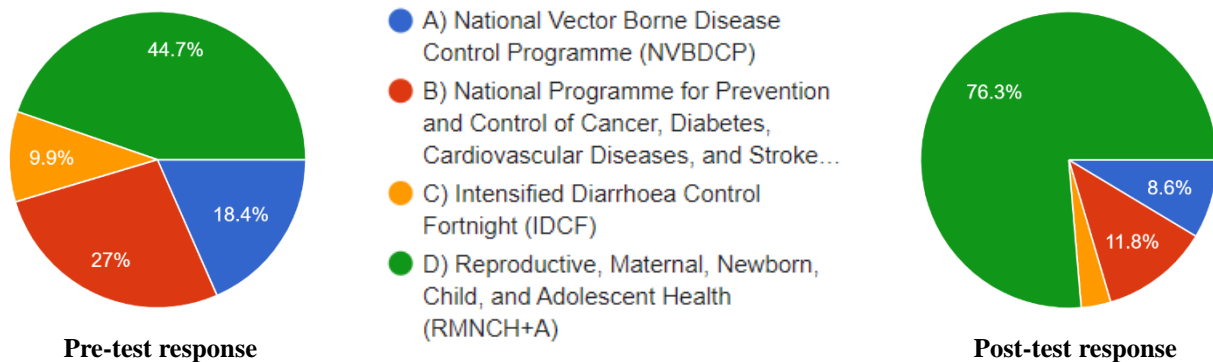
Regarding the question about the National Iron Plus Initiative (NIPI) which is a component of the National Health Mission (NHM) that focuses on addressing a particular health issue, 61.2 % of the participants gave correct responses in the pre-test which increases 70.9% of the participants giving correct responses in post-test.





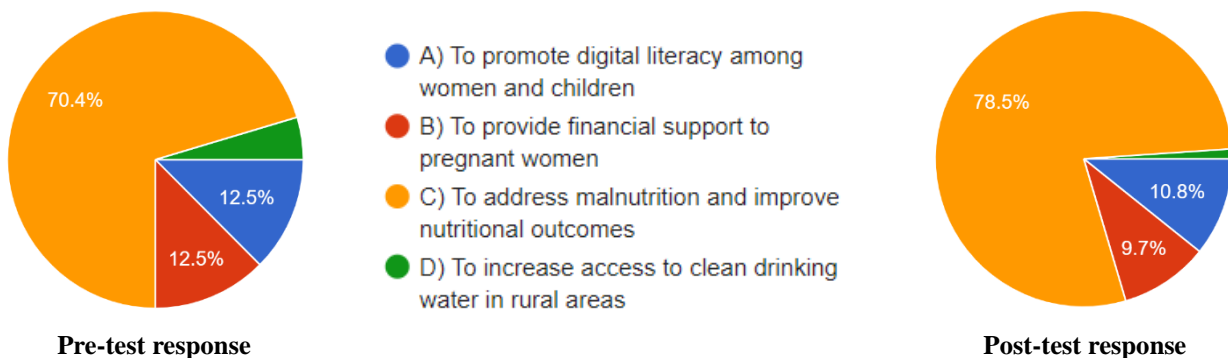
**Fig: 6 pre and post-test response**

During the pre-test, 44.7% of the students responded correctly that, RMNCH+A which is a part of the National Health Mission (NHM) aims to improve child health and reduce child mortality through focused health interventions. The rate of correct responses increases further to 76.3% during post-test.



**Fig: 7 pre and post-test response**

The majority of the students (70.4%) on the pre-test and (78.5%) on the post-test answered correctly regarding the primary objective of Poshan Abhiyan which is depicted in the diagram below.



**Fig: 8 pre and post-test response**

64% of the students in the pre-test and 79.6% in the post-test responded correctly that in addition to addressing the issue of malnutrition, the Mid-Day Meal Scheme also aims to achieve increased enrolment in schools

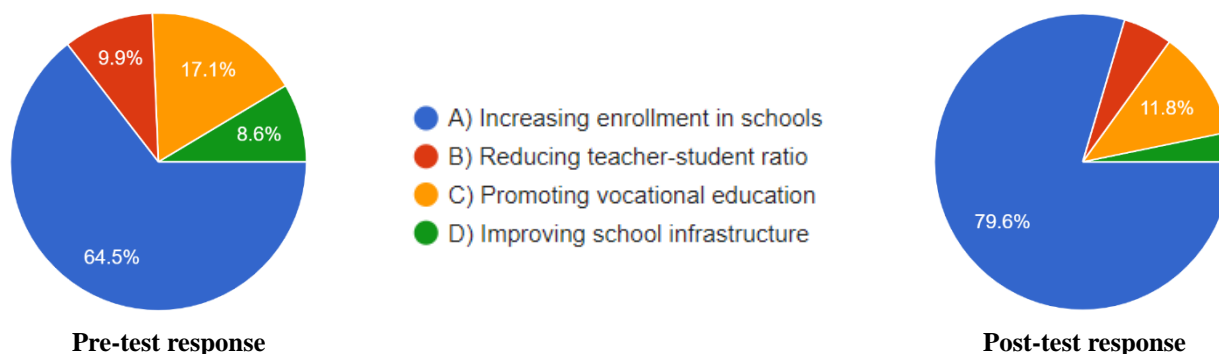


Fig: 9 pre and post-test response.

Regarding the stipulated nutritional content in the meals provided to children under the Mid-Day meals, 32.2% of the students in the pre-test and 36.6% of the students in the post-test gave correct responses as depicted in the diagram below.

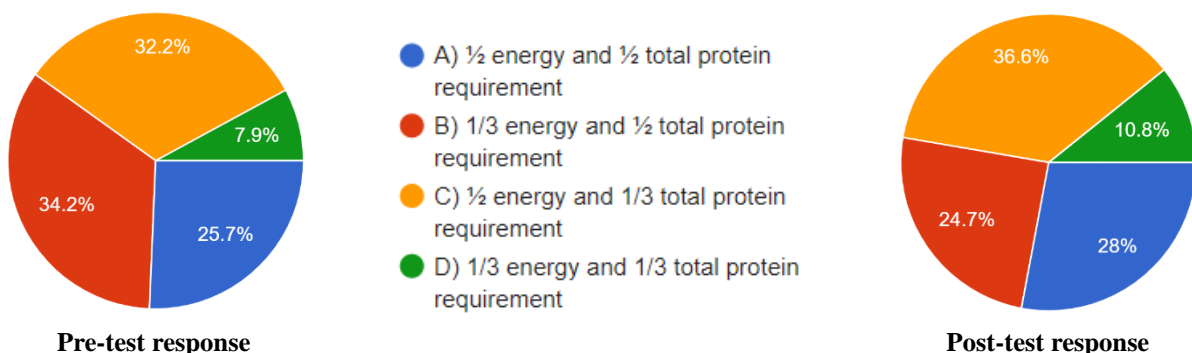


Fig: 10 pre and post-test response.

In the pre-test, 40.1% of the students and 58.1% of the students responded correctly regarding the vaccine which is not normally included in Universal Immunisation Program

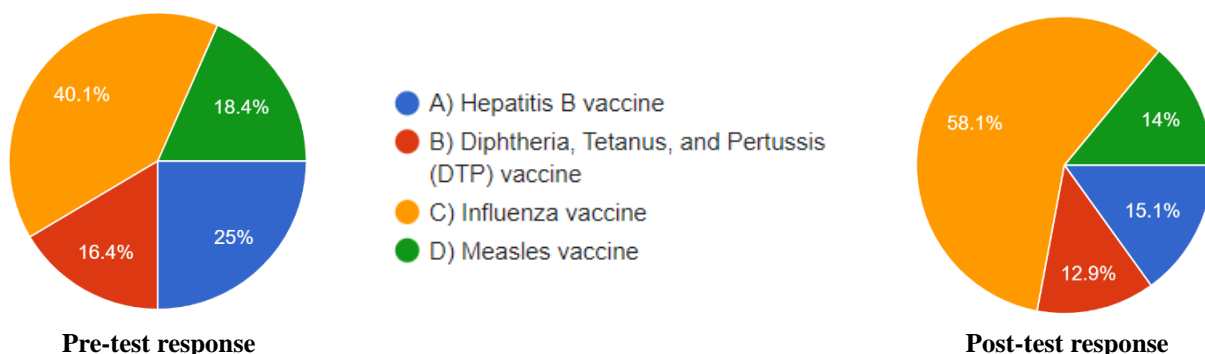


Fig: 11 pre and post-test response.

A total of 50% of the students in the pre-test and 53.8% in the post-test responded correctly that the introduction of the Rotavirus vaccine in the Universal Immunization Programme (UIP) has significantly contributed to the decline of severe diarrhoea cases in children under five years of age in India.

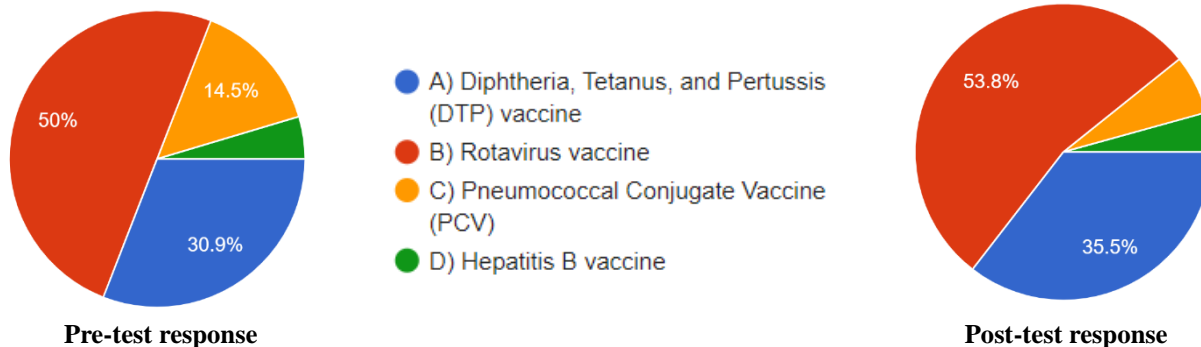


Fig: 12 pre and post-test response.

For the question regarding the recommended age of children to get a first dose of pentavalent vaccine under the universal immunisation program, 57.2% of the students in the pre-test and 62.4% of the students in the post-test responded correctly as 6 weeks.



Fig: 13 pre and post-test response.

In Pretest 50% of the participants and 65.6% in the post-test responded correctly that, the vector-borne disease Japanese Encephalitis has a vaccine used for preventive measures.

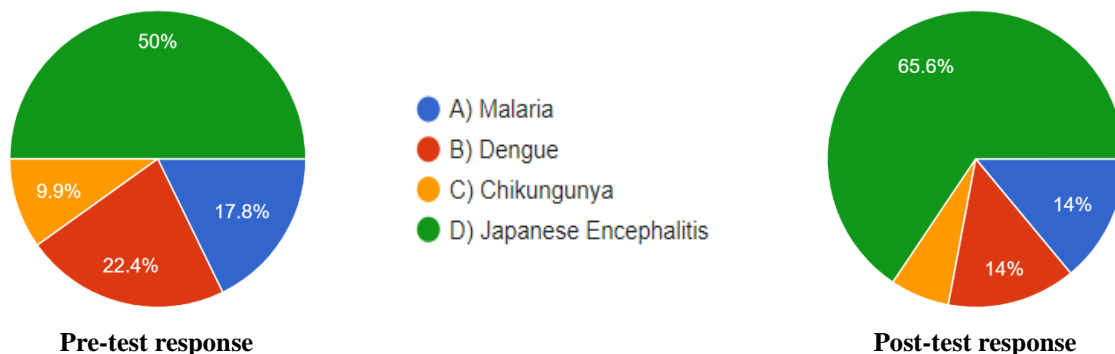


Fig: 14 pre and post-test response.

For the question asking about the disease transmitted by the Aedes mosquito which has been a major public health concern in India, 71.1 % of the students in the pre-test and 79.6% of the students responded correctly as Dengue.





Fig: 15 pre and post-test response.

In the pre-test, 40.8% of the students responded correctly that the National Tuberculosis Elimination Program (NTEP) has the vision to eliminate tuberculosis from India by the year 2025. The percentage of correct responses increased to 47.3% in the post-test.

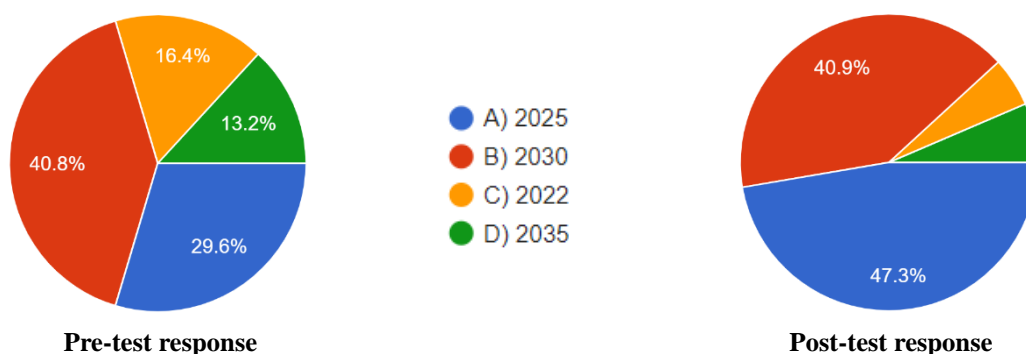


Fig: 16 pre and post-test response.

In the pre-test, 60.5% and in the post-test 74.2% of the students responded correctly about the regimen used to treat multibacillary leprosy under the National Leprosy Eradication Program as depicted in the figure below.

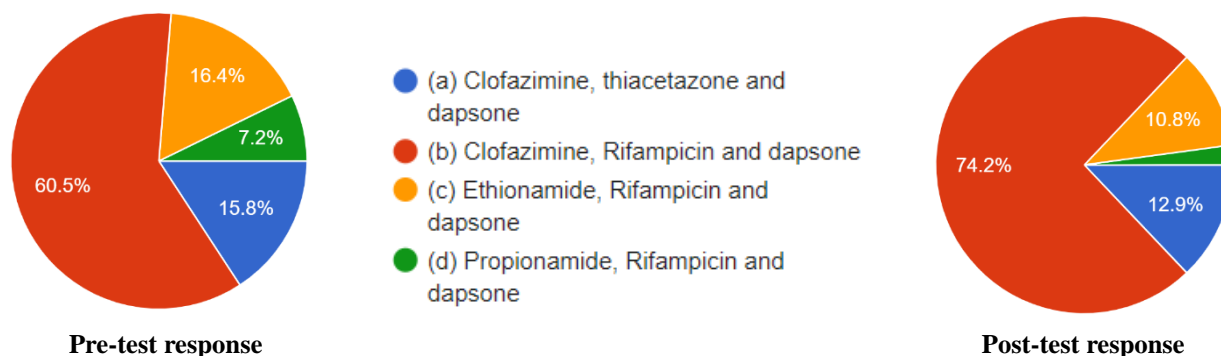
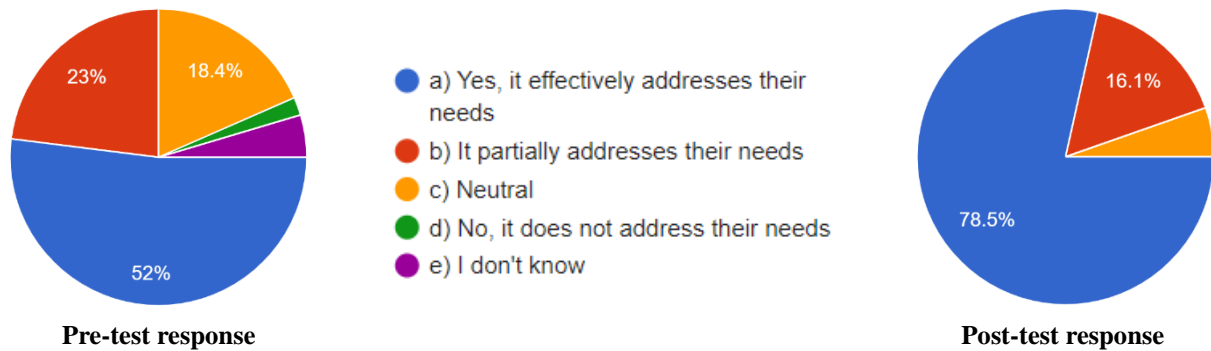


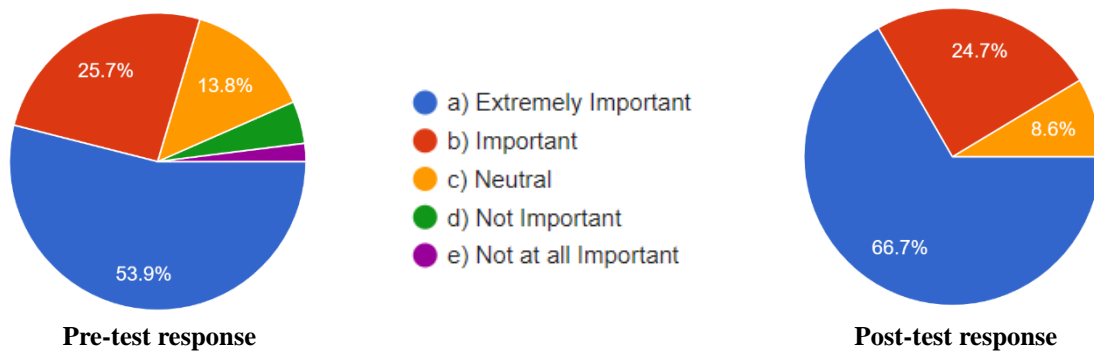
Fig: 17 pre and post-test response.

The various responses we got for different statements regarding the attitude-based questions are shown as diagrams in the form of pie charts. 52% of the students in the pre-test and 78.5% in the post-test believe that the Universal Immunization Programme (UIP) effectively address the specific health needs and risks of vulnerable populations, such as children living in slums or marginalized communities, as depicted in the figure below.



**Fig: 18 pre and post-test response.**

In the pre-test, 53.9% and 66.7% in the post-test responded that it is extremely important for parents and caregivers to be aware of and actively participate in the Universal Immunization Programme (UIP) to ensure better vaccination coverage, as shown in the diagram below.



**Fig: 19 pre and post-test response.**

A total of 20.4% of the students in the pre-test and 26.9% in post the responded that they are very well informed about the various vector-borne diseases and preventive measures advocated by the National Vector Borne Disease Control Programme (NVBDCP) as depicted in the figure below.



**Fig: 20 pre and post-test response.**

Regarding the effectiveness of the vector control measures implemented under the National Vector Borne Disease Control Programme (NVBDCP), such as insecticide spraying and use of mosquito nets, 32.9% of the students in the pre-test and 41.9% in post-test responded that it is very effective for controlling vectors, which is shown in the diagram below.



Fig: 21 pre and post-test response.

Regarding the stigma and discrimination associated with HIV/AIDS, 42.8% of the students in the pre-test and 57% in the post-test strongly agreed that stigma should be reduced for the success of the National AIDS Control Programme (NACP) whereas a similar 37.5% and 38.7% in pre-test and post-test only agreed to the statement as shown in the diagram below.



Fig: 22 pre and post-test response.

Table No.1: The responses we got from the practice-based questions are presented in the table below.

Question	Once in practice, I should be able to spread awareness of universal immunization programmes				
	Strongly agree	agree	Neutral	disagree	Strongly disagree
Pre-test	43.4%	40.8%	11.2%	3.9%	0.7%
Post-test	60.2%	29%	9.7%	1.1%	0

Question	Once in practice, I should actively engage with the community to support the implementation of the Mid-Day Meal Scheme in schools to improve child nutrition and education				
	Strongly agree	agree	Neutral	disagree	Strongly disagree
Pre-test	44.1%	33.6 %	17.1 %	3.9 %	1.3 %
Post-test	55.9%	36.6%	6.5 %	1.1%	0

Question	I am committed to raising awareness about the National Mental Health Programme (NMHP) to promote mental health and destigmatize mental illnesses				
	Strongly agree	agree	Neutral	disagree	Strongly disagree
Pre-test	44.1 %	32.9%	20.4 %	1.3 %	1.3 %
Post-test	57 %	32.3 %	7.5 %	2.2 %	1.1 %

Question	Once in practice, I should actively participate in the National Vector Borne Disease Control Programme (NVBDCP) to control the spread of vector-borne diseases in my area.				
	Strongly agree	agree	Neutral	disagree	Strongly disagree
Pre-test	39.5 %	36.8 %	17.8 %	5.3 %	0.7 %
Post-test	55.9 %	36.6 %	6.5 %	1.1 %	0

From the results obtained, we can conclude that the majority of the students agreed with the statements

provided in the questions. The percentage of the students being agreed increases drastically after attending the

lecture which indicates that the topics being taught to the students have significant impacts in changing their perceptions about the National Health Programmes.

### DISCUSSION

This study evaluates the Knowledge, attitudes and practice of National Health Programmes among Second Year MBBS students. The majority of the participants are male and of the age group 19-20 both in pre-test and post-test. Sources of information about NHP include the Internet, Books, Newspaper and other sources. Before giving the lecture majority of the students had prior knowledge about the National Health Mission giving 44.7% and 63.4% correct responses in the pretest and post-test. They also knew about National Iron Plus Initiative (NIPI) responding to this programme to prevent Iron Deficiency anaemia. Correct responses about RMNCH+A also increased after giving the lecture from 44.7% to 76.3%. They also have prior ideas about Mid-day meals and their additional importance in increasing school enrolment numbers. Correct responses about vaccines including in NHP increased from 40.1% in the pre-test to 58.1% in the post-test. They also had prior knowledge about pentavalent vaccines, JE vaccines etc and the percentage of correct responses increased in post-test evaluation. For all of the questions asked in the attitude-based questionnaire, they gave positive responses. For instance, the majority of the students (52% in the pretest and 78.5% in the post-test) agreed that UIP effectively addresses the specific health needs and risks of vulnerable populations. For practice-based questions, the majority of the students agreed to the statements provided. For instance, they agreed that they are committed to raising awareness about the National Health Programmes to promote mental health and destigmatize mental illness.

### CONCLUSION

It can be concluded well from this study that the majority of the students have prior knowledge about National Health Programmes and their attitudes as well as practice are positive and agreeable to the questions being asked to them. The present study also serves as a better means to increase the knowledge of the students about National Health Programmes as evidenced by the comparison of the percentage of correct responses in pre-test and post-test evaluations.

### ACKNOWLEDGEMENT

I would also like to extend my appreciation to the participants of this research, whose willingness to share their experiences and perspectives made this work possible. Additionally, I would like to thank my colleagues and fellow researchers who provided constructive feedback and engaged in insightful discussions, enriching the quality of this article. Each of these contributions has played a pivotal role in the development of this article, for which I am sincerely grateful.

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