India-Russia Healthcare Cooperation: Progress and Prospects

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Introduction

The use of 'science and technology' in the field of diplomacy allows countries to collectively find solutions to better human lives and national development. Healthcare co-operation within the domain of science diplomacy is one way to achieve these goals. Technology based healthcare systems aid to improve healthcare services. Although countries have long practiced healthcare cooperation, it has been only to contain the disease outbreak and limited to specific country/countries. For instance, strategies to contain Yellow Fever were restricted mainly in Africa and South and Central America. However, with the spread of diseases such as SARS, AIDS, H1N1 Flu (Swine Flu) and more recently COVID-19, the higher economic costs in handling such health crisis and a threat to the human security have led to countries rethink on including public health in matters of foreign policy (Singh, 2017). The rise of 'health diplomacy' in this context has been, therefore, a way to address health crisis and improve health infrastructure by way of increased collaboration and diplomatic efforts.

'Health diplomacy', a relatively new field of study and practice, lacks a concrete definition; though numerous disciplines and areas such as foreign policy, national interests, trade interests, health security, disaster relief, and human rights contribute to the concept (Chattu, 2017, p. 135). It acts

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as a bridge between the domestic and the global health challenge, as it binds national and bilateral commitments to multilateral partners (Pandit, 2021). Further, it not only allows governments around the world to create a single platform to address healthcare issues but also provides an opportunity for civil society to participate in it; thereby designing a sustainable healthcare model. In addition, vaccine diplomacy and science diplomacy provide an opportunity to rethink global health dynamics in ways that foster development, health security, justice and health equity (AlKhaldi, et al., 2021).

In this context, the paper analyses Russia and India's Health diplomacy. Russia is one of the countries with which India maintains an important relationship. The diplomatic ties have withstood Cold War politics, disintegration of the Soviet Union and Globalisation. The Cold War largely shaped the strategic nature of India-Russia ties focusing on defence (atomic, space and military hardware) and economic (trade and investments) cooperation. Post 1990, the avenues for strengthening the bilateral ties expanded to include scientific and cultural relations. Another area of cooperation on which both countries have reached an agreement is healthcare policy. India had established healthcare cooperation with the former Soviet Union in 1979. Over the years, both countries signed agreements which included the focus on improving public health system. These agreements also reflect the respective governments' acknowledgement of the inclusion of medical aspect within the domain of S&T cooperation. However, healthcare cooperation reached a highpoint during the COVID-19 pandemic. India's efforts in exporting Hydroxychloroquine (HCQ) and paracetamol to combat the disease and Russia's aid to India in the form of providing more than 20 tons of life-saving equipment and medicines, including oxygen concentrators, lung ventilation machines and medical monitors (Chaudhury, 2021) in 2021 during the severe pandemic, has been a significant example of health diplomacy.

India and Russia's efforts to mitigate the consequences of the COVID-19 pandemic were reflected in their domestic policies. Both countries' individual efforts include imposition of national lockdown, social distancing, and restrictions on movement across borders and increasing research and production of vaccines for the same. Nonetheless, the impact of the disease being felt in a similar manner in both countries, India and Russia while rethinking its existing domestic public health policy, have also been reshaping its foreign policy with a special emphasis on health diplomacy.

Objective and Method of Study

The existing literature on India-Russia bilateral relations focuses on political, economic, defence and cultural ties. While healthcare has been rarely used as a tool for enhancing diplomatic ties, this paper argues that India and Russia had established aspects of health diplomacy long before the era of globalisation. The paper also puts forth the argument that although not prioritised, healthcare policy was not a neglected subject in foreign policy matters. Over the years, both countries have attempted to review and improve the terms of healthcare cooperation, highlighting the growing importance of health diplomacy. The paper makes use of the content analysis method based on primary and secondary sources. A range of journal and news articles, books, the official agreements signed between the governments, government reports and the official ministerial speeches are analysed for the purpose of this paper.

From 1953 to 1971: Towards Establishment of Health Diplomacy

India-Russia (former Soviet Union) diplomatic ties were established in 1947, however, the relations made little progress due to Josef Stalin's view of postcolonial governments as tools of Western imperialism (Mastny, 2010, p. 52). It was only in 1953 with Stalin's death, India and the Soviet Union signed the first trade agreement, which not only established economic ties but also provided an opportunity for improved international cooperation. However, at the time, when the practice of high politics was prevalent, the subject of health in foreign policy was dismissed as low priority.1 As a result, the scope of health diplomacy remained limited to the trade of medical products and instruments.

Another reason for the non-inclusion of public healthcare in foreign policy issues was the prevailing domestic health policy in the Soviet Union. From 1941 to the mid-1960s, public health science in the former Soviet Union was reduced and officially referred to as 'organisation of healthcare.' This led to a categorization of public health not dependent on social conditions and foreign public health research and practise were largely ignored or criticised as irrelevant to the Soviet system (Demin, 2006). However, it did not prevent the Soviet government from trading medicinal equipment and instruments and providing funds for development of health infrastructure. For example, in 1961, the Indian Drugs and Pharmaceuticals ltd. (IDPL) set up by the government of India signed an agreement with the M/s. Technoexpert company, established by the Soviet Government on the construction of the antibiotics project in Rishikesh, a company producing surgical instruments in Madras, and a medicines factory in Hyderabad (Ministry of Petroleum and Chemicals and Mines and Metals, Government of India, 1969).

The 1971 Friendship Treaty and its Impact on Health Diplomacy

The 1971 Treaty of peace, Friendship and Cooperation between the Governments of India and the USSR was a major turning point that solidified Indo-Soviet ties. It paved way for increased opportunities to explore and forge new agreements in the fields of science, art, literature, education, press, radio, television, cinema, tourism, sports and public health. This renewed tie and the need to address national health concerns led to the signing of the Agreement between the Government of India and the USSR on Cooperation in the field of Medical Sciences and Public Health, on 14th March 1979. This agreement was the first step towards recognizing the need to improve the public health system and to conduct research activities to combat and prevent life-threatening diseases such as, cancer, smallpox and plague outbreaks. In addition, it also helped the Soviet Union to improve its long neglected domestic health infrastructure. Thereafter, with the signing of the Integrated Long-Term Programme (ILTP) in 1987, the Government of India and the former Soviet Union made strides toward greater scientific collaboration. The ILTP pioneered collaborative scientific research in the areas of Biotechnology, Immunology, Biomedical Sciences and Technology, among other fields of studies. It facilitated technology transfer and research and development in medical sciences, which over the years resulted in over 110 joint workshops/seminars, over 3500 exchange visits, more than 1500 joint publications and 10,000 stable scientific contacts (Consulate General of India, 2013). The ILTP also established a joint centre of excellence i.e., 'polio and other vaccine manufacturing facility'. The establishment of a polio vaccine production facility in 1989, Bharat Immunological and Biologicals Corporation Limited (BIBCOL), at Bulandshahr, Uttar Pradesh, in collaboration with the Soviet Technology Consultancy Corporation (NITI Aayog, Government of India), was a significant achievement of this programme. This plant which initially began with an annual capacity of 100 million doses of polio vaccine has received continuous assistance from Russia. Additionally, while encouraging the need for professional development scientists/engineers of this plant have also received training at the Institute of Poliomyelitis Vaccine, Moscow for periods ranging from 1-3 months (Ministry of Science and Technology).

1990 onwards

The end of the Cold War and reforms in the foreign policy of Russia, created new opportunities for accelerating India-Russia ties. In terms of health policies, the domestic changes in Russia aided in establishing health diplomacy. Beginning with the declassification of 'Health information' in 1993, modern research became possible and international collaboration with other countries began (Demin, 2006). Furthermore, the previously signed ILTP agreement, sustained events following the disintegration of the Soviet Union. As a result, in June 1994 the 'Intergovernmental Agreement of Cooperation on Science and Technology' was signed. This agreement was made with an aim to exchange knowledge and improved collaboration in all fields of science and technology,

Centre of Excellence	Area of work
Polio & other Vaccine Manufacturing	Promote research in area of vaccine
Facility (Bulandshahr)	production manufacturing.
Indo-Russian Centre for Biotechnology	Exchange and networking of
(Allahabad)	information in biotechnology.
Russian Indian Centre on Ayurvedic	Promote research and development of
Research (Moscow)	Ayurvedic medicines in Russia.
Indo-Russian Centre for Biomedical	Promote research and production of
Technology (Thiruvananthapuram)	Biomedical equipments.

Table 1

Source: Consulate General of India in Vladivostok, Government of India.

including medicine and healthcare. On the lines of the ILTP and the Agreement between the Governments of India and the Russian Federation on Cooperation in Science and Technology (1994), eight Indo-Russia Joint Centres of Excellence were established. Four of these centres focus on the use of advanced technology in medical sciences (table 1). The collaboration of Indian and Russian scientists on development of India's first indigenous oral polio vaccine, benefitting millions of people, is an excellent example of collaborative effort. This prompted several companies to develop oral polio vaccines, which eventually led to the launch of the Pulse Polio Programme in India in 1995 (Varshney & Kumar, 2020).

The following sections look at the joint progress made by India and Russia in different sectors of medical science which has contributed towards enhancing health diplomacy between the two.

Pharmaceutical Sector

India's health diplomacy with Russia has relied heavily on the export of various pharmaceutical sector units such as generic drug production, vaccines, biologics and medical devices. In 2011, the Indian Central Drug Standard Control Organisation (CDSCO) and Russian Federal Service on Surveillance in Healthcare and Social Development signed a Memorandum of Understanding (MoU) to recognise the efficacy and quality of the medicines supplied to the people in both the countries. This agreement between the two regulatory agencies was primarily intended to ensure the quality, safety and efficacy of medicines (Ministry of External

Affairs, 2011). Later, the Indian Ministry of Science and Technology and the Russian Ministry of Education and Science signed a MoU in 2012 to address the issue of Intellectual Property Rights to aid drug research, development and transfer of knowledge. Another significant agreement was the signing of a MoU between the ICMR and the Russian Foundation for Basic Research in December 2014 at New Delhi. This collaboration in Health Research included new generation vaccine research and research in HIV/AIDS. Interestingly, because both institutions are funding agencies, it provides an incentive for scholars and scientists from both the countries to conduct additional research in production of drugs for life threatening diseases. In the wake of COVID-19 an increased demand for pharmaceuticals made Russia the fourth largest importer of pharmaceutical products from India (Pharmaceuticals Export Promotion Council of India, 2021, p. 27). Moreover, India's vaccine diplomacy also allowed for the collaboration of Russian Direct Investment Fund and the Indian pharmaceutical companies to manufacture 'Sputnik-Light' vaccine in India and further export it abroad (Ministry of External Affairs, Government of India, 2022).

Traditional Medicine

India has long used and explored the field of traditional medicine, primarily for its domestic production and consumption. For decades, in the area of medical tourism, India has been a popular destination for wellness tourism which includes a wide range of services ranging from health-focused hotels and resorts, spas to Ayurvedic clinics, yoga centres, and ashrams for the Russians (Katz, 2015). Since 2014, there has been an increase in the export and collaboration with countries for the use of traditional medicines, mainly Ayurveda. On these lines, the Central Council for Research in Ayurvedic Sciences of India and People's University of Russia in 2015 signed an agreement to expand cooperation in the field of traditional medicine, specifically Ayurveda. This agreement focused on research in the field of traditional medicine and outlined the property rights regulations. With research being the focal point of this agreement, it also agreed to advocate the safe use of the Ayurvedic medication in both India and Russia. The need for a blend of Traditional and Modern Medicine to adopt a holistic approach to healthcare and well-being was also reiterated by India and Russia during the Joint Communique of BRICS Member states in 2016. This is crucial, for it recognised the importance of healthcare cooperation at a global level.

On a related note, in 2020, India's Ministry of Health and Family Welfare, so as to promote education of the Indian Traditional medicines abroad, signed MoUs with 23 countries including Russia. The MoU offers scholarships every year to students pursuing undergraduate, postgraduate and PhD programmes in Ayurveda, Yoga, Unani, Siddha and Homeopathy (AYUSH) systems at premier institutes in India. The MoU also allowed for registration of AYUSH products namely Unani and Ayurveda with regulatory authorities of the Russian government (PIB Delhi, 2020).

Medicine and Biotechnology

The extension of the ILTP in 2010, not only included innovation but also expanded the areas of cooperation in the fields of biotechnology and immunology, biomedical sciences and technology and nanotechnology among other areas (Ministry of External Affairs, 2010). At present, certain completed projects under ILTP include medical applications of lasers, such as treatment of drug-resistant Tuberculosis using phototherapy based on UV light, biostimulation and tissue modification, use of laser-based fluorescence techniques for cancer diagnostic applications, among others(Varshney & Kumar, 2020). Furthermore, in June 2021, three Indian S&T-led enterprises²were selected to undertake joint R&D and technology transfer projects under the India-Russia Joint Technology Assessment and Accelerated Commercialization Program. Of these, two of the companies aim at creating a portable device to detect and cure Rheumatoid Arthritis and the development of prosthetic technologies (Department of Science and Technology, 2021).

India and Russia over the years have been successful in expanding their healthcare cooperation. Nonetheless, with the emerging trends in technology and unprecedented life threatening diseases, there lies a scope for both countries to revisit the existing agreements and incorporate such aspects. The benefit of it is twofold (i) Strengthening of health diplomacy, thereby indirectly improving the domestic standards of health policy; (ii) Contributing to greater cooperation in the global health diplomacy.

Healthcare Cooperation Prospects

Pharmacology Research Collaboration

The impact of changing avenues in medical sciences on public health can only be relevant when there is continued research. The COVID-19 pandemic resulted in increasing demand on the pharmaceutical industry. In this context, increased research activities and collaboration provide great opportunities for the growth of the pharmaceutical sector, which is an emerging field. The most important aspect, however, is the requirement of adequate state funding and exchange of technological knowledge; this is where both countries have greater scope for collaboration. Additionally, there lies potential for a comprehensive and continuous drug testing for production of vaccines and medicines for various non-communicable disease and including intellectual property rights under the scope of knowledge transfer.

Telemedicine

The concept and practice of telemedicine in India and Russia has been prevalent for over 20 years, although it was limited to communication at the expert-level. In the wake of COVID-19, the field of telemedicine has emerged as having high potential in delivering better public healthcare access. Telemedicine offers an affordable health care service to remote areas thereby making it accessible to people from all walks of life. At the most fundamental level, India and Russia's collaboration to improve digital infrastructure should focus on the need to improve telemedicine practise. This will in turn aid in creating a strong 'telehealth³ network', thereby attracting the experts in the field for the purpose of virtual diagnosis, medication and conferences on knowledge exchange. Such collaboration will help deliver a qualitative and a sustainable healthcare service. The scope of such a telehealth network also has the potential to be enhanced with the inclusion of making use of traditional medicine and further expand the bilateral telehealth network service into a global network.

Educational and Professional Exchange Programmes

According to the Russian head of the education section, Russian Centre of Science and Culture "Russia witnesses the influx of nearly 6,000 Indian students every year, and around 70 per cent of them study medicine" (Kumari, 2019). The government-sponsored scholarships and the existing diplomatic relation have made Russia one of the most preferred countries to pursue a medical degree. Both the government can tap into these two factors and formulate specific bilateral policies on student and educators educational exchange programs in the field of medical science, with internship opportunities. Such exchange programs will provide new perspectives for changes in both countries' existing healthcare infrastructure. Furthermore, translational research for addressing information inadequacy or misinformation provided to the patients arriving from Russia and/or former Soviet countries should also be promoted (Suryanarayan, 2017). Lastly, in the light of Ukraine war, while Russia offers to allow Indian medical students from

Ukraine to continue their studies in the country, Indian government could provide a compulsory internship programme to those students in the country as an alternative to the compulsory exit exam which provides them with the licence to practice in the country.

Public-Private Partnership in Healthcare Research and Development

Post 1990s, the involvement of private institutions has increased the potential for an improved health policy in India. The public private partnership in the pharmaceutical sector for testing and manufacturing generic drugs can help produce cost-effective medications mainly for the NCDs. Secondly, the collaboration of Pharmacopoeia Commissions will pave way for improved skill development programs and research activities to maintain the quality of standard drugs. Further, a public private partnership in the emergent area of Telemedicine can help establish a digital-public health domain. Another opportunity lies in the creation of climate resilient health infrastructure. The adverse impact of climate change calls for investment from private and government institutions which can benefit in designing and establishing a sustainable health care policy.

Collaboration on Multilateral Forums

International organizations widen the scope for information exchange on matters of health, thereby aiding in its implementation at the national level. On these lines, BRICS and SCO provide an ideal platform to expand India-Russia's healthcare cooperation into such multilateral forums. To begin with, both the organisations

contribute to the development of trade regulations governing medical products. This can make way into ensuring greater accessibility of products such as medicines, medical instruments, etc. by reducing the import costs and harmonizing regulatory requirements. Secondly, the health-related policies presented at such organisations will help mitigate the large-scale negative impact of global health challenges like HIV/AIDS, SARS, COVID-19 and noncommunicable diseases like cancer, diabetes and cardiovascular diseases. Russia regularly holds dialogues on health with India and China and has established trilateral consultations among the three countries to pool expertise on such issues as HIV/AIDS, tuberculosis, Hepatitis B, and malaria (Bliss, 2011, p. 6). Since these have become a global health concern, such forums help to meet the need to find solutions to address the long term implications of global health challenges.

Conclusion

The geographical widespread of SARS-CoV-2 virus in the beginning of the year 2020, proved that national policies of economy, polity and security are all equally connected with national health policy. The pandemic showed that the breakdown of national health infrastructure elicits a domino effect on the country's governance and economic development. The threat posed to humankind due to the COVID-19 global pandemic, an unprecedented crisis, forced governments across the world to re-evaluate their health policies. Moreover, the pandemic also brought governments together to defeat one common enemy in the form of a life-threatening virus. The pandemic has brought health diplomacy to the centre-stage and demonstrate that it acts as a stimulus for the governments to collaborate in the area of healthcare, thereby bringing about a collective solution to a single threat in a peaceful manner. Over the years, the Indian and the Russian governments have made progress in the area of health care cooperation increasingly. Their co-operation to mitigate the far-reaching impact of the COVID-19 pandemic shows how the two countries have embraced the relevance and the need of health diplomacy.

Endnotes

- ¹ In the study of international relations, the concept of 'high politics' refer to the political and security factors, whereas the economic, cultural and social factors are termed as 'low politics'. 'Health' as a subject in foreign policy has been grouped with the matters of social dignity, and hence viewed as low politics.
- ² The three Indian companies are Jayon-Implants (Kerala), PrantaeSolutions (Odisha), and Ananya Technology (Bangalore).
- ³ WHO defines Telemedicine as the provision of healthcare services like diagnosis and treatment for clients at a distance and Telehealth as a broader term which not only includes providing clinical guidance, but also information on exchange of professional healthcare services and public health administration.

References

- AlKhaldi, M., James, N., Chattu, V. K., Ahmed, S., Meghari, H., Kaiser, K., ... Tanner, M. (2021, April 13). Rethinking and strengthening the Global Health Diplomacy through triangulated nexus between policy makers, scientists in light of COVID-19. *Global Health Research and Policy, 6*. Retrieved from https://doi.org/10.1186/s41256-021-00195-2
- BIBCOL. (2018). *Information: Milestones*. Retrieved from BIBCOL India: https://www.bibcol. com/milestone.php

- Bliss, K. E. (2011). Health Diplomacy of the Foreign Governments. Washington D.C: CSIS Global Health Policy Center. Retrieved from https://csis-websiteprod.s3.amazonaws.com/s3fs-public/ legacy_files/files/publication/111222_ Bliss_HealthDiplomacy_Web.pdf
- Chattu, V. K. (2017). The rise of global health diplomacy: An interdisciplinary concept linking health and international relations. *Indian Journal of Public Health*, 61(2), 134-136. doi:10.4103/ijph.IJPH_67_16
- Chaudhury, D. R. (2021, May 23). Second Russian medical mission to India expected soon: Envoy. *Economic Times*. Retrieved from https://economictimes.indiatimes.com/ news/india/second-russian-medicalmission-to-india-expected-soon-envoy/ articleshow/82866649.cms?from=mdr
- Consulate General of India. (2013). *India Russia S & T Cooperation*. Retrieved from Consulate General of India in Vladivostok, Government of India: https://www. cgivladi.gov.in/page/indo-russian-s-andt-cooperation/
- Demin, A. K. (2006). Appendix D: Social Aspects of Public Health Challenges in Period of Globalization- The Case of Russia. In S. Knobler, A. Mahmoud, S. Lemon, & L. Pray, The Impact of Globalization on Infectious Disease Emergence and Control: Exploring the Consequences and Opportunities- Workshop Summary. Washington D.C: National Academies Press (U.S). Retrieved from https://www.ncbi.nlm.nih.gov/books/ NBK56582/
- Department of Science and Technology. (2021, June 11). *Three Indian S&T led enterprises selected for joint R&D and technology transfer with Russia*. Retrieved from Department of Science and Technology, Government of India: https://dst.gov.in/three-indianst-led-enterprises-selected-joint-rd-andtechnology-transfer-russia
- Katz, A. (2015, April 16). India emerges as new destination for Russian medical tourists. Retrieved from Russia Beyond: https:// www.rbth.com/society/2015/04/16/ india_emerges_as_new_destination_for_ russian_medical_tourists_42649

- Kumari, J. (2019, November 19). Why Russia is a huge draw among foreign students. *Times of India*. Retrieved from https:// timesofindia.indiatimes.com/home/ education/times-study-abroad/europe/ why-russia-is-a-huge-draw-amongforeign-students/articleshow/72124909. cms
- Kundu, N. D. (2008). India's Strategic Cooperation with Russia and its 'Near Abroad' States. *India Quarterly*, 64(4), 73-101. doi:https:// www.jstor.org/stable/45073165
- Mastny, V. (2010). The Soviet Union's Partnership with India. *Journal of cold war studies*, 12(3), 55-90. Retrieved from https://www.jstor. org/stable/26923380
- Ministry of External Affairs. (1979, March 14). Agreement between the Government of India and the Government of the Union of Soviet Socialist Republics on Cooperation in the field of Medical Science and Public Health. Retrieved from Ministry of External Affairs, Government of India: https://www. mea.gov.in/Portal/LegalTreatiesDoc/ RU79B1783.pdf
- Ministry of External Affairs. (2010, December 21). India-Russia Treaty on Integrated Long Term Programme of Cooperation in Science, Technology and Innovation. Retrieved from Ministry of External Affairs, Government of India: http://www.mea.gov.in/Portal/ LegalTreatiesDoc/RU10B2349.pdf
- Ministry of External Affairs. (2011, December 16). Memorandum of Understanding between CDSCO, India and Federal Service on Surveillance in Healthcare and Social Development, Russia. Retrieved from Ministry of External Affairs, Government of India: http://www.mea.gov.in/Portal/ LegalTreatiesDoc/RU11B0024.pdf
- Ministry of External Affairs, Government of India. (2022, June 22). Vaccine Maitri: Vaccine Supply. Retrieved from Ministry of External Affairs: https://mea.gov.in/ vaccine-supply.htm
- Ministry of Petroleum and Chemicals and Mines and Metals, Government of India. (1969, April). Committee on Public Undertakings (1968-69), Fourth Lok Sabha, Forty-sixth report. Retrieved from https://eparlib. nic.in/bitstream/123456789/57523/1/ copu_04_46_1968.pdf

- Ministry of Science and Technology. (n.d.). Indo-Russia Integrated Long Term Programme. Retrieved from Indo-Russia Centre for Biotechnology: https://ircb.iiita.ac.in/ aboutiltp.html
- NITI Aayog, Government of India. (n.d.). 8th Five Year Plan (Vol. 2): Science and Technology. Retrieved from NITI Aayog, 8th Five Year Plan: https://niti.gov.in/ planningcommission.gov.in/docs/plans/ planrel/fiveyr/8th/vol2/8v2ch18.htm
- Pandit, P. (2021, April 27). Understanding the role of health in foreign policy: The Indian experience. Retrieved from Observer Research Foundation: https://www.orfonline.org/ expert-speak/understanding-the-role-ofhealth-in-foreign-policy/
- Pharmaceuticals Export Promotion Council of India. (2021). 17th Annual Report: 2020-21. Hyderabad. Retrieved from https:// pharmexcil.com/uploads/annualreports/17thAnnualReport.2021Final.pdf
- PIB Delhi. (2020, September 18). Steps taken by the Government to Promote the Indian System of Medicines. New Delhi, India. Retrieved from https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1656379
- Singh, S. K. (2017, September 19). Global Health Diplomacy: A Strategic Opportunity for India. United Nations University-International Institute for Global Health. Retrieved from https://iigh.unu.edu/ publications/articles/global-healthdiplomacy-a-strategic-opportunity-forindia.html
- Suryanarayan, N. (2017). The Role of the Russian Language in India's Healthcare Sector. *Russian Journal of Linguistics*, 21(3), 515-529. doi:10.22363/2312-9182-2017-21-3-515-529
- The Embassy of India. (n.d.). *Indo-Russian S* & *T Cooperation*. Retrieved January 18, 2022, from Embassy of India in Moscow: https://indianembassy-moscow.gov.in/ indo-russian-s-t-cooperation.php
- Varshney, S. K., & Kumar, R. (2020). Science & Technology: Epitome of India-Russia Cooperation. Retrieved from Embassy of India in Moscow, Government of India: https://indianembassy-moscow.gov.in/ pdf/snt/Indo-Russia%20S%20and%20 T%20Cooperation%20Article_2020.pdf