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Air Ambulance Operations in India: Need for a Legal Framework

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Abstract

India, a vast country having a population of 1.46 billion connects the people through roadways, railways, seaways and airways. The concept of Air Ambulance comes within the ambit of aviation. The whole gamut of aviation is outlined at international by the International Civil Aviation Organisation (ICAO) and in India it is governed by Ministry of Civil Aviation and regulated by the Directorate General Civil Aviation, The operation of air ambulances in India are regulated by a complex regulatory authority like the DGCA, the Ministry of Health and Family Welfare, Ministry of External Affairs, Ministry of Home Affairs etc. Hence, air ambulance requires assistance under various legal framework.

It is evident that, said population is prone for various risks whether natural (force-majeure) or artificial (human intervention – accidents). Under these circumstances, humans become prey for risks which are inherent in the nature. Under these circumstances, saving human life becomes pertinent and the fastest means of saving life is through the 'air-ambulance'. It is evident that these air ambulances have become the fastest lifesaving transport system which is presently at nascent stage in India.

Hence, this research paper, highlights the significance of air ambulance; the concept of air ambulance; infrastructural requirements, legal framework (international and at domestic level); emerging legal issues, and challenges ahead with conclusion and suggestions being a part of the author's research work.

Introduction

India a vast country having a population of 1.46 billion connects the people through roadways, railways, seaways and airways. Airways being connected at domestic as well as internationally are regulated internationally by the International Civil Aviation Organization (ICAO) and at domestic by the Ministry of Civil Aviation and Directorate General of Civil Aviation (DGCA). Airports and Airliners are the economic engines of a country paving way for economic growth and development. Chicago Convention 1944 plays a vital role in regulating the operations of scheduled and non-scheduled aircrafts globally. India's aviation sector is regulated by a combination of laws[1], policies[2] and regulatory bodies[3] focusing on safety, security, airworthiness, environmental standards and economic regulation of airlines and airports.

As stated above, India being a vast populated country, it is obvious that accidents take place putting the lives of people in danger. Every human on earth confronts with various types of risks, whether it may be

[1] Aircraft Act, 1934 replaced by Bhartiya Vayuvan Vidheyak, 2024, Aircraft Rules, The Civil Aviation Rules (CARs), Airports Authority of India Act, 1994, National Civil Aviation Policy, 2016,

[2] UDAN Scheme, Drone Policy (UAS Rules & Drones Rules, 2021, Greenfield Airport Policy.

[3] Directorate General Civil Aviation (DGCA), Airports Authority of India, Bureau of Civil Aviation Security (BACS), Airports Economic Regulatory Authority (AERA),

by human intervention (accidents) or by nature (force-majeure) and a risk is inherent in all means and all ways and always. Based upon a report, a total number of 4,61,312 road accidents have been reported by police departments of respective States and Union Territories during the calendar year 2022[4], claiming 1,68,491 lives and causing injuries to 4,43,366 persons. At this juncture, the author states that the percentage of deaths can be reduced by the fastest means of medical care i.e., through "Air Ambulance" which has proved beyond reasonable doubt that many lives can be saved if air ambulance is put into operation.

India, which bustles with cities, remote villages, and challenging terrains, requires a rapid medical emergency service where road ambulances cannot work. During floods, fire-accidents, earth-quakes, volcano eruptions etc., people struggle to save their lives where occasions say that people require immediate medical care. Amidst this backdrop, air ambulance services emerge as indispensable lifesaving resources, bridging geographical barriers and providing critical care to the need. Hence, the need for air ambulance operations plays a vital role in saving and rescuing the victims prone due to natural or artificial disasters. Hence, the author focuses on various aspects of issues pertaining to air ambulance operations, government initiatives, infrastructure, benefits, law and policy and finally the challenges.

Air ambulances plays a vital role in saving the lives of the persons not only during the accidents, or natural disasters, but also, where a need arises due to poor hospital infrastructure which is not enough to cater the needs of a patient and finally he or she must be shifted to another hospital, whether near of far, and it is true that by road ambulance due to traffic it is not safe for a patient who is struggling for life and death requires an emergency medical care where through airlift only it will be possible to save the lives of persons involved in rescuing them from any untoward incidents.

Concept of Air Ambulance

Primarily, the concept of aircraft can be classified based on their design; use[5]; propulsion[6] system; engine[7]; wing-configuration[8], and many more. However, among the aircrafts, "air ambulance"[9] is a specially technology equipped aircraft used for emergency transportation of patients of critical nature; transplantation etc. Based upon the distance aircrafts are used like the helicopters (used for short distance or to remote distance); fixed-wing aircraft for long-distance transfers including evacuations globally. Hence, air ambulance is equipped with medical equipment which includes stretchers systems; life-support equipment; I V Pumps; oxygen supplies; medications; ventilators, monitors, defibrillators; along with highly qualified, experienced and trained paramedics, nurses capable of providing advanced life support system etc. These air ambulances are operated for emergency evacuation based upon the natural hazards, industrial accidents; connecting the remote areas; and also, for organ transplantation.

During the air ambulance operations, the air rescuers are an integral part responsible for ensuring safety and security of patients, medical staff etc. These rescuers are of highly skilled professionals having rigorous training to handle a wide range of emergency scenarios and operate effectively in high-stress environments.

[4] Road Accidents in India 2022, Ministry of Road Transport and Highways (Transport Research Wing) 2022.
[5] Commercial Aircraft; Military Aircraft; Private Aircraft; Cargo Aircraft; Rescue and Emergency Aircraft; Agricultural Aircraft.
[6] Heavier-than-air aircraft (powered flight) (fixed-wing aircraft (airplanes); rotary-wing aircraft (Helicopters);Tiltrotor Aircraft (combined features); Lighter-than-Air Aircraft (Buoyant Flight) (Airships; Balloons.
[7] Jet Aircraft; Turboprop Aircraft; Piston-Engine Aircraft; Electric Aircraft (Emerging).
[8] Monoplane; Biplane; Delta-Wing; Canard; Variable-sweep wings; (specialized for performance).
[9] https://epiguard.com/air_ambulance_medical_transport_everything_you_need_to_know/ (visited on 5-10-2024).

In addition, they are also trained and equipped with civil aviation rules (CARs) and regulations and are notably equal to the pilots, as licences are issued by the Directorate General Civil Aviation (DGCA) and hence their expertise allows them to assess patient conditions, administer necessary treatments, and communicate effectively with receiving medical facilities to ensure seamless continuity of care.[10] An approval is not required for the carriage of dangerous goods like oxygen cylinders, spirit, etc. for the purpose of providing medical aid to a patient. Avoidance of fatigue in air crews specifies limits on flight duty periods for these operations and however, they are required to use the Operation Manual while flying or operating the said air ambulance[11].

In India, various types of air ambulances are provided which are viz.[12] (i) normal ambulance; (ii) oxygen ambulance; (iii) ICU Ventilator Ambulance; (iv) Air Ambulance; (v) dead body transport ambulance service; (vi) dead body freezer box ambulance; (vii) dead body freezer box on rent (viii) hospitals ambulance; (ix) surgery ambulance; and (x) events ambulance.

Definition of Air Ambulance

ICAO: A formal definition on "Air Ambulance" is not defined by the International Civil Aviation Organization (ICAO), but are generally covered under "aeromedical evacuation" and "medical transport". Air ambulance services are included under ICAO Annex 6 which speaks of 'Operation of Aircraft' which means Medical Transport Flights which transports the patients who require medical attention during the flight including aircraft equipped with life-support medical equipment, operated by medical crew and are carried out under emergency or scheduled conditions.

DGCA: "Air Ambulance" is defined as:

"An aircraft used for the purpose of transporting sick or injured persons whose medical condition requires treatment in flight or urgent medical attention at a medical facility and is equipped with the necessary medical equipment and personnel to provide such treatment."[13]

The definition which states 'aircraft' means a fixed-wing or a rotary-wing; equipped for in-flight medical care operated under non-schedule air transport with specific permissions. However, the definition requires a coordination between the aviation authorities, medical team and the operator.

Benefits of Air Ambulance

Focusing the benefits of air ambulance; when emergency situation is not known to human beings but when it arises, the person requiring the necessary medical care becomes the primary object in saving the life, by means of fast transportation which can be possible only by the air ambulance when compared to the road transportation or road ambulance. The said air ambulances are fully equipped with medical equipment; highly trained medical staff along with qualified nurses and having knowledge to take critical care during transit by airlift. This airlift of a patient, reduces the risk especially in cases of emergency medical care like the cardiac arrest, mental trauma, kidney organ transplantation etc.

Air ambulance bridges the distance between the place of happening and to the place the victim is lifted. It facilitates for an easy lift of patient or person by which he may be saved. A concept of "health-tourism"

[10] https://medium.com/@hepotew120/the-importance-of-air-ambulance-c8c5c49fd6fb (visited on 8-10-2024).
[11] https://www.caa.co.uk/Commercial-industry/Aircraft/Operations/Types-of-operation/Air-ambulance- operation/(visited on 14-10-2025).
[12] https://www.goaid.in/rules-and-regulations-of-ambulance-in-india/(visited on 22-102-2024).
[13] DGCA: Civil Aviation Requirements (CAR), Section 3 – Air Transport, Series C, Part IX.

emerged recently, where people from African countries take a flight enroute for tourism and health care. People from Africa (e.g. Nigeria) leaves their country for tourism and on way they get a good medical check-up in India and again they continue their journey. It means in one way it acts as air ambulance and the other side their tourism continues. Hence, various geographical areas are connected to remote areas by air ambulances where patients get immediate medical and health care services.

The benefit of air ambulance to the victims, arises only due to the well equipped advanced medical technological air ambulance with highly qualified specialized doctors and medical teams with experienced nurses capable of high-quality medical care, is possible. The whole team must have, hands to work during take-off, in transit (in air), and while landing till they reach the designated hospital for cure or medical care. Here it the integration of enhanced healthcare infrastructure coupled with enhanced medical facilities "on board" while in transit. So, it leads to the saving of a human life which benefit at large to human community through the valuable services of air ambulance[14]. Finally, air ambulances play a vital role in serving the critical care patients during natural disasters; evacuation process due to emergencies i.e., where chances of survival are too remote; saving much time so as the victim can get a speedy recovery and relief from his state of critical illness etc., and also during organ transplantation[15].

Advantages

The air ambulances which are known for their speedy disposal of critical patients in no time, that they become a ray of hope of survival. These air ambulances are not subject to any traffic nor any type of bad road conditions, and hence reduces the transportation time. Secondly, the level of care that patients receive during transportation is well supported by the highly trained medical professionals trained as per the need or specifications in handling the patients who are fighting for their life till they are handed over to the designated hospitals. These air ambulances cater the needs of the critical patients or where there is requirement of surgery or transplantation to the near as well as to far off places which even may cross borders for a best treatment in a foreign country. Hence, the importance of air ambulance services can't be overstated in emergencies in which immediate medical care is required when compared to the ground or road ambulance[16].

Disadvantages

Air ambulance which has become a life-saving means of transport but it doesn't mean that it lacks which becomes expensive for a common man. Air ambulance is not every one's cup of tea hence, it has its disadvantages in the context of countries like India, where the infrastructure and regulations are still evolving. At this juncture, (i) air ambulance is a costly affair compared to ground ambulances and cannot be afforded by all except who are able to pay such a high expensive means of treatment through the air ambulance; (ii) based upon the meteorology department at times flying is cancelled due to poor weather, or heavy rains, fog, or winds which hampers the emergency situation of a patient to be lifted through air ambulance; (iii) connectivity or accessibility to all regions like the remote or the hilly areas without airstrips or helipads is not possible; (iv) air ambulances requires the clearance from DGCA, ATC etc., and if delay is caused during the critical or emergencies, there is no meaning in getting transported through air

[14] https://www.udanaviation.in/blog/importance-of-air-ambulance-services-in-india/(visited on 11-11-2024).
[15] https://medcab.in/blog-detail/The-Importance-of-Air-Ambulance-Services-in-India:-Saving- Lives-from-the-Skies (visited on 15-11-2024).
[16] https://zhl.org.in/blog/the-ultimate-guide-on-importance-of-air-ambulance-in-emergency/(visited on 17-11-2025).

ambulance; (v) all cannot be accommodated in the air ambulance leaving capacity constraints except the patient and the medical crew; due to turbulence and vibration (if helicopters noise), emergency treatment like surgeries cannot take place in mid-sky and the medical procedure becomes limited; (vi) the expenses of the patients lifted through the air ambulance are not covered by the Insurance companies and finally (vii) mis-use (used for normal purposes) of air ambulance leads for unnecessary emissions causing environmental pollution and may face criticism of sustainability; (viii) finally, the victims are not covered under the insurance by which a common man must pay the expenses of highly equipped air ambulance with medical care and treatment.

Regulatory Framework for Air Ambulance

Domestic: The Aircraft Rules, 1937, under Rule 134A specifies that no person shall operate any non-scheduled air transport service from, to, in, or across India, except with the permission of the central government. However, the Civil Aviation Requirement (CAR) contains minimum requirements for air ambulance operations. Regarding the medical evacuation or air ambulance operating under the non-scheduled operator permit (NSOP), the DGCA had passed no specific regulations. In July 2015, the DGCA released a Draft CAR on air ambulance operations which include the medical attendant having a qualification in aviation medicine with a minimum two years ICU experience; and an aircraft should carry oxygen cylinders (flow of 2-15 L/min.); stretcher with restraining straps and devices like spring traction over dead weights. It was mandatory that disinfection protocols should be observed after transporting communicable patients.

In 2016, the DGCA issued a detailed technical and operation requirements under CAR Section 8, Series S, Part VII focusing on Stretcher requirements; medical equipment, complying with aviation trauma standards; helicopter emergency medical services specifying defined protocols for hoist operations, fuel planning etc., flight clearance and notice requirements under non-scheduled flight category; a requirement of air operator certificate to operate air ambulance as a commercial aeromedical service. Later, in 2011, following a fatal air ambulance crash in 2011, the government ordered DGCA to consider mandatory black box (CVR.FDR) installation on small aircrafts. Presently, the DGCA is working on finalizing a specific CAR for air ambulances[17].

In 2017, the DGCA issued CARs for Air Ambulances under Section 3 Air Transport, Series ‘C” Part XII of the CAR relating to air ambulance services in India. The said guidelines states that the non-scheduled operators (NSOPs) and Scheduled Operators can provide air ambulance services but they must hold a valid Air Operator Permit. As per the CARs, an ordinary aircraft cannot be used as air ambulance, unless the aircraft is appropriately modified for medical configuration and must include life-saving medical equipment such as ventilators, oxygen supply, defibrillators etc. Finally, the DGCA must approve the modifications and if approved, then a No Objection Certificate (NOC) is issued by the DGCA.

The CARs also state that they based upon the ‘training’ requirements flight (air ambulance) must meet the DGCA licensing requirements. Here the word ‘training’ denotes that the crew members must be medical crew i.e. doctors, nurses, or paramedics and must be trained in aeromedical evacuation and in-flight medical care. Security clearance is a must for air ambulance personnel. The air ambulance must also comply with the flight operations i.e. safety regulations and patients are transported as per the medical guidelines with proper documentation in coordination with the Air Traffic Controller, Hospitals and

[17] https://in.search.yahoo.com/yhs/search?hspart=sz&hsimp=yhs-024&p=dgca+and+air+ ambulance+rules&type=type80410-3881108711&param1=3327701778.(visited on 22-10-2024).

emergency services. In emergency cases if any night landing takes place, then the operator is allowed if he has necessary Instrument Flight Rules (IFR) for night landing.

International: Air ambulances, at times, must cross the international border for treatment. It becomes pertinent to save the life. Taking the case of Malala Yousafzai a Pakistani schoolgirl shot in the head and neck by Taliban militants in the Swat Valley on October 9, 2012 while advocating for girl's education. In Peshawar she was treated in a military hospital where a bullet was removed and later a panel of Pakistani and international doctors recommended for transport for further specialist care and was air evacuated using a UAE provided air ambulance. Again, on October 15, 2012, she was flown to the United Kingdom landing in Birmingham and taken to the Queen Elizabeth Hospital and a major trauma centre well-equipped to handle severe head injuries and long-term neurorehabilitation.

For international patient transfer, the DGCA rules on international charters, airworthiness and visa/immigration rules apply because the air ambulance is entering into the air space of another country and a prior authorization is required, if not, the air ambulance will be grounded at any designated airport of that foreign country. Medical certification is required to cross the international border. Operators must have a valid insurance coverage for the air ambulance, medical crew and the patients along with the attendants. Finally, permission from Ministry of External Affairs and the Ministry of Home Affairs may be needed.

Comparing the legal framework under the ICAO and DGCA, the following is the different approach relating to its application to the air ambulances:

The "regulatory framework" for air ambulances under ICAO is governed by the international standards and recommended practices (SARPs) for civil aviation and in India (DGCA) the national civil aviation authority regulates the operations within Indian airspace.

The governing document under ICAO is the Annex-6 Operation of Aircraft; Annex-9 Facilitation; and Annex-14 Aerodromes. In India they are covered under CAR Section 8, Series 'S' Part I Aircraft (Second Amendment) Rules, 2017 and AIC 6/1998 of Aircraft Rules 1937.

The ICAO generally defines an air ambulance as a specialized aircraft used to transport patients under medical supervision and in the DGCA includes helicopters which are used especially in remote or inaccessible areas.

The ICAO states that an aircraft requirement means the equipment and staffing requirements as per SARPs (Annex 6 Part I, Chap 4 & 6). The n requires an aircraft to be registered, airworthy and customized with medical equipment; with a medical escort which is necessary.

Under ICAO, the crew and the medical staff must meet operational competence as laid down under Annex 1 & 6. Medical Staff is not regulated directly by the ICAO. In India, the medical staff's qualifications, experience etc are governed by the Ministry of Health and Family Welfare and the pilots of the air ambulance must meet the DGCA licensing standards.

Relating to the crew and medical staff, they must meet the operational competence under Annex I and VI. The medical staff are not regulated directly by the ICAO. In India, the medical staff qualifications are governed by the Ministry of Health and Family Welfare and the pilots must meet the DGCA licensing standards.

Under ICAO the flight operations are subject to the Rules of Air (Annex 2), Licencing (Annex 1) and Operational Manuals (Annex 6). In India, the air ambulance under the non-scheduled operations need approval for medevac missions.

In priority handling the ICAO recommends expedited clearance for medical evacuation flights under Annex 9. In India, the DGCA may provide Air Traffic Controller priority, subject to the coordination with Airports Authority of India.

Focusing the customs and immigration Annex 9 promotes facilitation for air ambulance patients. In India, they are implemented under the Bureau of Immigration rules but no unified national procedure is in existence.

Finally, the safety oversight of the ICAO's Universal Safety Oversight Audit Programme (USOAP) ensures member compliance with SARPs where as in India the DGCA conducts audits, surveillance, and enforcement actions through CAR-M and CAR 145.

Case Law

In Union of India v. Bhanumati[18]; the issue raised was the reimbursement of expenses for air ambulance transport under the Central Government Health Scheme (CGHS) while shifting her critically ill husband. The court directed CGHS to reimburse the cost, emphasizing the right to emergency medical care and timely treatment were part of Article 21 of the Constitution of India.

Puneet Kaur v State of Punjab[19]; the issue raised was a request for government-funded air ambulance for critically ill patient. The High Court refused to direct the State to provide an air ambulance at public expense unless existing government guidelines provided for it. The case highlights the gap in legal mandate and lack of infrastructure in Indian healthcare law for air ambulance access.

Emergence of Private Air Ambulance Service

As there is a dearth of public air ambulance services in India, the private sector is coming forward to cater the needs of the critical patients requiring various types of medical care. This private air ambulance service provider known as "Safe Fly Aviation" a Chennai based service provider stands as a trusted person in medical transportation with highly equipped aircraft functioning as mini-ICUs. They provide state-of-the-art medical equipment and staff by a team of highly skilled medical professional including respiratory therapists; paramedics and physicians. They do have global reach with local expertise[20]. Another company by name BookAirAmbulance charge a membership fee of Rs. 30000 for an individual programme and Rs. 60000 for a family programme with excludes taxes.

Hospitals Responsibility toward Air Ambulance

The year 1990s has witnessed the concept of Liberalization, Privatization and Globalization; the private participation has become important. Even though the Public-Private Partnership is playing a significant role in the development activity of a nation, still some areas are yet to brought under the umbrella of PPP like the Air Ambulance facility to the victims in critical stage. As the air ambulance is gaining importance, the private parties or the private hospitals are coming forward to establish their roots in saving lives of the patients through the air ambulances. Hence, private parties have stepped into, operating the air ambulances. The author states that introducing an air ambulance is not equal to operating a Charter aircraft which means that, to run air ambulances, there are some legal requirements on the part of the Hospitals which is mandatory as per the aviation law. Hence, the hospitals who offer air ambulance services must adhere to a complex rule

[18] 2024 DHC 1556; WP (C) No. 11892/2016
[19] *Civil Writ Petition No. 1279 of 2020* (Punjab & Haryana High Court, Chandigarh),2020
[20] https://airambulanceservice.in/. (visited on 10-10-2024).

under medical aviation, regulatory, logistical, and infrastructural requirements. The following are the requirements and responsibilities of the private hospitals which must be strictly followed:

The hospitals are required to establish infrastructural requirements, requiring Helipad or rooftop landing pad with the approval of the DGCA under CAR Section 4 – Series B Part IX. Access between the emergency and ICU departments must be established through routes. The hospitals and the air ambulance service providers must have a good coordination so as to lift the patient in no time to save his/her life.

The hospitals must have good medical facilities and medical team and must set up an ICU unit on ground to support stabilization before and after transfer of the patient. Qualified medical team with emergency physicians, critical care doctors, paramedics with nurses having air evacuating training is a must. The air ambulance must be equipped with ventilators, defibrillators, monitors, suction units, oxygen supply and emergency medicines prescribed the concerned doctor taking care of the patient in critical stage. Patient transfer protocols must be maintained.

The operator must have a tie-up with a licenced air operator having permission with the DGCA to operate air ambulance services. Air ambulance must be certified for medical configuration under the DGCA CAR guidelines. Pilots must be qualified and have experience in handling the medical missions and emergency landing protocols. Unless airworthiness certificate is issued no air ambulance should fly.

Operation of air ambulance is based upon the regulatory and legal requirements through the DGCA's compliance under Section 3 (Air Transport), Series C, Part VII and Section 4 (Aerodromes), Series B, part IX (Helipads). The operator must coordinate with the Ministry of Health and Family Welfare Department for approval of his operations. The air ambulance must take an insurance policy having a coverage over the air ambulance and also the medical team.

As Air ambulances are part of aviation sector (not for carrying passenger nor cargo), the operators must fulfil the obligations of taking permission to take-off and landing through the Air Traffic Controller and also other with other authorities like the 108/EMS services, police, disaster teams etc. Other financial and administrative requirements should be followed.

Present Scenario of Air Ambulance Operations

As per the Ministry of Civil Aviation[21] in March 2022; 49 air ambulances (aeroplanes and helicopters) were operated by 19 non-scheduled operators in India. The state-wise split of these air ambulances was Delhi (39), Gujarat (1), Kerala (2), Maharashtra (5), Odisha (1) and West Bengal (1).

Air ambulances are operated only by a small number of hospitals in India. Most hospitals collaborate with specialized air medical transport services. Majority are based on aviation partners. India has approximately 49 air ambulances operated by 19 different service providers and they work in conjunction with a network of 100 hospitals, particularly private tertiary hospitals, that offer access to air ambulance services. Among individual hospitals, Apollo Hospitals[22] pioneered its own air ambulance operations in the aircraft and early 2000s and currently runs services through fixed-wing and helicopters in South, Central, and North India. Hence, the registered air ambulance aircraft in India amounts to 49; and service providing operators are 19 and Hospital partnerships (private hospitals connected to air ambulance operations amounts to over 100.

[21] https://www.civilaviation.gov.in/(visited on 15-11-2024).

[22] https://www.apollohospitals.com/departments/emergency-trauma-care-services/air-ambulance- services.(visited on 11-11-2024).

Legal Issues

In this digital era, air ambulance with highly equipped technological medical care is important for the life protection of the humans which provide rapid transportation to the need for critical care transfers across the vast geographic distances at domestic and international levels. This air ambulance are at its bud stage, and takes a good time to grow and develop by which these services pose some legal issues pertaining to air ambulance transportation at all levels. Hospitals that wish to offer air ambulance services must fulfil a combination of medical, aviation, regulatory, logistical, and infrastructure requirements. Here's a detailed breakdown of what is required:

The DGCA's draft rules (2015-2016) are to be looked into and a final regulation for the air ambulance transportation is the need of the hour because it deals with emergency cases. A robust mechanism is required for air ambulance operators which at present is lacking (CARs). Many other things like the certification of aircraft for medical use; appropriate licence to be borne by the pilot with medical fitness; and the aircraft or the so-called air ambulance must fall within the ambit of non-scheduled air transport services. Hence, the air ambulance regulatory framework is the need of the hour.

CARs relating to hospitals and service providers must be drafted so as to include the hospitals and also the service providers instead with the general medical and clinical regulations. Hence, accreditation with National Accreditation Board for Hospitals and Healthcare Providers) will be a good practice.

The Non-Scheduled Operator Permit from the DGCA must be obtained and must adhere to the aviation safety compliance which includes night flying and weather-readiness. Certification of the medical equipment installed in the air ambulance whether to a fixed wing aircraft or a helicopter. Licences provided to the pilots of the air ambulance must be at par with the CARs of the DGCA.

During the transit of patients on board of air ambulance, if under any circumstances a patient is administered with wrong medicine or non-supply of oxygen or ill treatment with the patient or defying the medical practice rules of the Medical Council, in any way if there is fatality of the patient, then the liability must be fixed depending upon the person whether the operator who was negligent in administrating medicine etc.; or the hospital authorities if they have arranged the wrong medicine or the service; or the doctor or the particular medical team member on board of the air ambulance, will he held liable. Hence, liability provisions must be drafted instead of applying the Warsaw Convention 1929 or the Montreal Convention 1999 but Consumer Protection Act, 2019 or under Tort law for negligence.

Liability can be waived if there was an informed consent from the patient or his family members conveying the risks involved in transfer by air ambulance, but must be in written form or audio-visual to protect against the liability. Violation of patient rights may invoke the Clinical Establishments (Registration and Regulation) Act, 2010 in applicable states.

Air ambulance, insurance coverage is not clear and varies widely and the Insurance Regulatory and Development Authority (IRDAI) is trying to coordinate air ambulance under standard health insurance plans.

Air ambulance operators must obtain route permission in the airspace and also must get clearance from Air Traffic Controller. The air ambulance operators must be acquainted with areas like prohibited areas, restricted areas, and dangerous areas as defined in the Chicago Convention 1944. The air ambulance must also know whether the air ambulance is air worthiness as per the Convention 1944. Flight Plans must also be adhered as per Annex attached to the Chicago Convention 1944.

The operators need the air traffic control clearance; and the approval of the flight plan. Much coordination with the authorities is required. Emergency landings are provided subject to the proper coordination with the authorities.

Medical data of the patients must be kept confidential which are protected under Section 43A and 72A of the Information Technology Act, 2000 and also under the Digital Personal Data Protection Act, 2023. The air ambulance or the medical team will be responsible for the data leakage if any and will be held responsible under the laws.

Under any circumstances, if the air ambulance is required to transport the patients to other countries, then the legal issues include immigration and visa clearances; international health regulations (especially during COVID); permission to be sought from other State to enter into its air space; prior authorization is required from the other State to cross its air space; coordinating with the foreign aviation and medical authorities.

Focusing the hospitals, the hospitals much develop infrastructural requirements like Helipad or rooftop landing pad. These landing systems must comply with CAR Section 4-Series B Part IX of the DGCA; helipads must be compatible for night landing operations; coordination and communication systems between the air ambulance and the hospital must be established; medical facilities viz. setting up of ICU on ground to support stabilization before/after transfer along with a highly experienced and qualified medical team which consists of critical care doctors, paramedics and nurses handling crisis management must be appointed; air ambulance must be equipped with medical equipment like the ventilators, defibrillators, monitors suction units, oxygen cylinders, along with required medicines, and its accessories required for a patient in critical state. There should be "designated hospitals" network should be there to tackle the situation of the evacuee or the critical patient or of a person's transplantation.

Connectivity, communication and coordination between the aviation authorities (DGCA) and the air ambulance operator must be there and air ambulances must operate with the permission of the DGCA. Air ambulance must be certified for medical configuration under the DGCA issued CAR regulations. Medical training to flight crew is a must and airworthiness certificate is a requirement for medical aircraft i.e., air ambulance.

Compliance of other regulatory and legal requirements of DGCA, Approval from Ministry of Health and Family Welfare or the State Health Department; approval for public hospitals; Insurance coverage to the victims and consent to proceed with air lifting and surgery should be taken from the patient or his/her family members etc.

Finally, as patient is lifted by the air ambulance, the cost of lifting the patient plays a significant role in determining access to life saving medical transportation. According to recent data, the cost of air ambulance ranges from Rs. 2 lakhs to 10 lakhs which a common man can't afford. Under these circumstances, the government must provide subsidy and the operator must reduce the charges. If the government can remove taxes on air ambulance's aviation turbine fuel and also on the whole the tax component on patient's charges, then, it will be affordable to all the persons who avail the air ambulance during the critical cure of the patient.

Challenges Ahead

Air ambulance services in India have become a helping hand for the required at the remote and urban areas. Air ambulances have become a phenomenon as the life-saving transport for the persons with critical health and medical care. However, it is not free from various challenges. Challenges are based on (i) Legal

and Regulatory Framework (i.e. lack of comprehensive legal policy); (ii) Operational and Infrastructural (i.e. overlap of regulations between aviation and health; no clarity on patient's rights; (iii) Cost-effectiveness (i.e. the cost for a patient to be lifted will range between 2 lakhs to 10 lakhs and also depends upon the critical health and medical care required viz., cardiac arrest or kidney transplantation. For below poverty level (BPL) and middle-class it has become a threat to get the facility of air ambulance, At times insurance will not support the issue); (iv) Lack of coordination between the Hospitals and the Air ambulance service providers; (v) Lack of public awareness (vi) Privacy concerns; (vii) Infrastructural and Technology gaps, etc. (viii) In India, there is a dearth of experienced Commercial Pilot Licenced personnel. No shortage of pilots exits. India has good number of pilots and as per the DGCA, every year it issues nearly 1000-1500 Commercial Pilot Licence (CPL). However, there are other factors by which CLP are not employed due to low deployment of CPL holders; insufficient training infrastructure (India has only about 34 Flight Training Organizations (FTOs) and often runs out of flight hours due to lack of simulators and qualified instructors); higher demand for experienced pilots who specialized on aircrafts like helicopters, ATRs, Embraer's, and wide-body jets. Hence, these challenges are to be meted out for the growth and development of air ambulance in India.

Conclusion

Air ambulances are playing a vital role in saving lives of humans whether the risk is from accidents, natural calamities, evacuation processes, or due to critical ill health etc.

At international; all the member nations are bound by the legal framework laid down by the International Civil Aviation Organisation (ICAO) under the Chicago Convention 1944 (CC) with various Annex attached to it. However, ICAO does not provide any Annex attached to the CC pertaining to air ambulances, but its (air ambulances) operations are comprehensively covered under various (i) operational rules (Annex-6 Operation of Aircraft); (ii) Facilitation measures (Annex-9 Facilitation); (iii) Safety Standards (Annex-18 The Safe Transport of Dangerous Goods by Air) and (iv) Special handling Protocols i.e., ICAO Guidance Documents and Manuals - e.g., MEDEVAC Designator and Air Traffic Control (ATC) a call sign to identify an aircraft carrying sick or injured persons needing urgent medical attention. Hence, under Standards and Recommended Practices (SARPs), States have an obligation to certify and regulate air ambulance operators under Annex-6; Annex-9 and ensure medical and aviation personnel adhere to the standards laid down by the ICAO and must coordinate with health authorities and airport operators.

In India, Air ambulances are governed by a multi-agency legal structure which is a combination of civil aviation regulations (DGCA); healthcare standards (Health Ministry) and emergency management laws (National Disaster Management Authority [NMDA]). Presently, operation of air ambulance services is governed by the CAR Section 8, Series C Part VII issued by the DGCA in the 2015. India has operational guidelines but not a comprehensive legislation nor a legal framework. Hence, India lacks a legal framework for air ambulance services which is in a nascent stage.

Suggestions

As the world has become a "global village" and also entered in Liberalization, Privatization and Globalization process, it is the need of the hour that the Government of India along with the DGCA has to come out with a legal framework on air ambulances at domestic and international by integrating the Hospital authorities, Road transport systems; aviation regulations CARs issued by the DGCA which must

be in consonance with the ICAO guidelines. Draft CARs were issued by the DGCA in the year 2017, and it is nearly 8 years that the DGCA must come out with a robust legal framework coordinating with various authorities as stated above. Hence, there is lack of uniform National Policy on Air Ambulances in India. The private parties like the Hospitals while operating their private air ambulances must establish and comply with the infrastructural requirements; well trained medical teams with training in evacuation and treating the critical patients on board; must fulfil the requirements of CARs issued by the DGCA from time to time and adhere to the legal requirements under aviation law, Ministry of Health and Family Welfare and other departments for the smooth functioning of the air ambulance in India providing access to the remote and the needy.