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Upholding Women's Reproductive Health through MHealth Applications: Comparative Analysis of Health Data Protection Laws in India and the EU

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ABSTRACT

Novelty has always found its way into the health industry, particularly in its evolving services. One of the primary drivers of systematic advancements is the pursuit of Target 3.7 of the Sustainable Development Goals (SDGs), which focuses on universal health coverage. The invention of Mobile health applications marks another magnificent step in this direction. Developing economies, including India, have aimed to achieve the target by 2030 in alignment with the World Health Organisation (WHO). Nevertheless, national health reports often lack a holistic perspective. Annual health survey reports from various Indian states highlight significant disparities in women's access to health care services. As cited in the National Health Survey 2025, the root causes of these disparities in India are largely socio-economic. These include monetary disparity, social restrictions, etc. Consequently, menstrual health, reproductive health care, maternal mortality, and mental health issues are often deprioritised. This paper explores how universal health coverage by 2030 can be achieved through the implementation of artificial intelligence (AI) powered mobile health applications, suggesting telemedicine that specifically addresses women-centric health issues. It identifies the key cause of health access disparity for women in India and evaluates the effectiveness of the artificial intelligence (AI) powered mobile health applications through a comparative analysis with other jurisdictions that have successfully implemented the telemedicine technology. It also analyses the key regulatory frameworks present in India that could regulate the usage of telemedicine by protecting the health data of women.

Keywords: Sustainable Development Goals, Telemedicine, Universal Health Coverage, Maternal Death, Artificial Intelligence, Mobile health applications, Health Data.

Introduction

This century is a witness to technological advancement in all human affairs. This technology is nevertheless paving the way for cost-effective advancements. It is minimising human labour and replacing it with algorithms. Every sovereign nation has witnessed turmoil in the years of COVID-19. It is the very juncture in which each of the states felt the need to develop Artificial Intelligence medical software applications that would work on remote sensing technologies. India was not an exception to the same. These remote sensing technologies are being implemented in different segments of medical research. Robotic Surgery, Drug Discovery through AI. AI-driven Mobile health applications are some of the results. India, being the biggest consumer of mobile-based applications, has listed several AI-based mobile health applications in the Google Store and Apple Store. India has ensured that these applications are both government and private-aided. These mobile health applications are not only promoting remote sensing technologies for health services but also serving towards Sustainable Development Goals for universal health coverage. For India, SDG Goal 3.7—which calls for universal access to sexual and reproductive healthcare services by 2030—is extremely important. Its large and diverse population makes it extremely difficult to overcome sociocultural norms and geographic constraints, which have led to gender disparity and a lack of adequate healthcare infrastructure to meet this goal. However, a revolutionary way to close these gaps and hasten the transition to universal sexual and reproductive health (SRH) is provided by the growing use of mobile technology and the emergence of mobile health (mHealth) applications in India. Even the most remote areas of India now have internet access and smartphone ownership, marking an unprecedented digital revolution. Due to the widespread availability of mobile connectivity, mHealth interventions can effectively deliver SRH education, information, and services to people directly, circumventing conventional barriers. To bypass the embarrassment or stigma that may accompany in-person consultations, mobile applications can provide a discreet and private space for users, especially adolescents and young people, to seek information on contraception, safe sexual practices, menstruation, pregnancy, and sexually transmitted infections (STIs) (Hall et al., 2017).

In addition to providing information, mHealth can empower users by providing them with interactive tools such as symptom checkers, pregnancy calendars, and fertility trackers, which help them better understand their bodies and make decisions regarding their reproductive health. (Aung et al., 2020). Additionally, these

apps can help identify possible pregnancy problems early, allowing for prompt intervention and lowering maternal and infant mortality rates—two crucial components of SDG Goal 3.7. Additionally, it can be witnessed that these mobile health applications are providing women a safe space to express their health needs, which leads to empowering women to own their bodies and make decisions. These applications are even helping women to gain knowledge of financial investment through health insurance policies.

1. Emergence Of Ai Mobile Health Applications In India

The emergence of Artificial Intelligence in mobile health in India can be categorised into two halves. The first half is the digital revolution all over the globe. It is the time when artificial intelligence influence can be seen in every aspect. The countries and non-state actors, like the WHO, initiated and invested in research on AI inclusion in medical research. Since India in recent years, has grown as the largest economy in South Asia, it has also invested in medical research. The use of technology in medical research is not new, but the idea of remote sensing, telemedicine, and robotic surgery is a recent upgradation. Another phase is the COVID-19 period. It was the very period when the conventional way of medical treatment became redundant. The researcher had to come up with ways of providing remote sensing medical care. The real-time tracking of health data came into place. It was quite evident from the government reports that there was a huge deficit of health care service providers. According to the WHO, in India, the ratio of medical officers to the population of the country is quite low. In order to meet the deficit, the ministry has come up with the National Medical Commission Act, 2019. One of the objectives of the act is to certify the mid-level health care providers who are not NEET-certified officers to serve the population. In the absence of a qualified medical officer, these mid-level health care providers will serve as first aid caregivers. But with the years of COVID-19, these health care arrangements started failing. The major reason was urban as well as rural populations of India started rejecting the conventional way of treatment. These AI-driven Mobile health applications are of different types. Not every application works as real-time health information tracking. With the cross-sectional web-based methodology of identifying the AI-based Mobile health applications, several categories are being identified. The following image tries to bifurcate among the types of mobile-based applications that are predominantly used in India.

Broadly, the mobile health applications can be categorised into the following heads: Hospital management applications, Women's health applications including pregnancy tracking applications, First aid applications, Chronic Disease management applications, Mental health applications, remote patient monitoring applications, Telemedicine applications, medication reminder applications, Fitness as well as wellness applications. With each of the types of mobile health applications, the privacy policy, data requirements, and algorithms vary. These applications include a real-time health tracking system through AI-powered wearable devices, whereas others require extensive data collection from their users. All of these data are to be categorised as sensitive personal data. . For instance, if a woman uses pregnancy applications, then she has to provide the date of conception of her fetus to the date of her last pregnancy. Even to the extent of uploading the ultrasonographic plates to the applications.

1.1 Working Mechanism of mHealth Applications

One of the main causes of the disparities in healthcare access is ingrained gender inequality(Kiruba, 2023). Women frequently have little control over their lives, including decisions about their health, in patriarchal societies like India. Many women need their husbands' or in-laws' consent before consulting a medical practitioner, particularly when it comes to delicate matters like reproductive health(Saikia et al., 2016). In Indian households, the voices of women might be silenced and their mobility limited. Because they cannot make decisions, women may put off seeking medical attention until their symptoms worsen or until a male family member says it's time, which frequently results in less successful or more expensive treatments(Mukerji & Turan, 2020).

2. Reasons For Disparity In Women's Health Access

Disparities in women's access to healthcare are largely caused by a complex web of factors that are part of India's socio-economic landscape. Even though India has made impressive progress in public health metrics over the years, a closer look reveals the existence of gender disparity, with women frequently suffering the most from below mentioned reasons. These differences, although not directly connected to the denial of health access, are adversely affecting their health access.

2.1 Financial constraints and lack of financial education:

Monetary deficit is at the core of initiating the health access inequalities. The majority of the world's poor reside in India, and women and girls are disproportionately impacted by poverty in these households. A lack of funds directly results in the inability to pay for medical services, such as consultations, prescription drugs, diagnostic testing, and facility transportation(Cook & Ngwena, 2006). It has been observed that the minimum knowledge required for using sanitary napkins and reproductive care is lacking, as financial constraints have rendered them inaccessible. Indirect costs like travel, lost income for the woman and her accompanying family member, and the need to buy necessary supplies can be prohibitive even in cases where public health services are available and ostensibly free(Batura et al., 2022). The health needs of women are further marginalised in

many families because healthcare expenses are prioritised for male family members, particularly those who earn a living. Due to their financial dependence, women frequently lack the autonomy to choose whether to seek financial support, permission, or medical care (D'souza et al., 2024). The minimal education for maternal care and generic medicine use seems to be unimaginable. The result is that these medical problems are too stigmatised to be discussed or recognised as a medical urgency.

2.2 Limited Knowledge and Awareness:

A person's daily habits regarding health care are greatly influenced by their level of education (Social Determinant of Health, 2021). Lack of scientific and rational knowledge about common health issues, preventive care, and the significance of prompt medical intervention is directly correlated with lower levels of education among Indian women, especially in rural areas (George, 1997). Women with limited or no education might not be aware of reproduction planning or the idea of safe coitus, the signs of serious gynaecological symptoms, or the advantages of vaccinations (Breaking the Barriers: How Gender Equity Advances Immunization | International Vaccine Access Centre, 2025.). They are more susceptible to untested techniques or reliance on conventional, occasionally ineffective treatments because of limited exposure to health information campaigns and an inability to assess medical advice critically (Idris et al., 2023). Additionally, the literacy rate in many states in India, where the majority of the rural community has limited or nil access to basic rights and science, resulted in zero knowledge about smart decision-making and recognising the fundamental rights of universal health access (Educational Disparities Among Girls in India, 2025.).

2.3 Gender Disparity:

One of the main causes of the disparities in healthcare access is ingrained gender inequality (Kiruba, 2023). Women frequently have little control over their lives, including decisions about their health, in patriarchal societies like India. Many women need their husbands' or in-laws' consent before consulting a medical practitioner, particularly when it comes to delicate matters like reproductive health (Saikia et al., 2016). In Indian households, the voices of women might be silenced and their mobility limited. Because they cannot make decisions, women may put off seeking medical attention until their symptoms worsen or until a male family member says it's time, which frequently results in less successful or more expensive treatments (Mukerji & and Turan, 2020).

2.4 Cultural adversities led to societal stigma :

The prevailing societal attitudes and cultural norms have a major impact on the healthcare access of women. It is frequently taboo to discuss about sexual and reproductive health, which makes it hard for women to freely express their worries, even to family members, much less medical professionals (University, 2022). Infertility, STIs, and even gynaecological problems are associated with a great deal of social stigma, which can cause people to put off or completely avoid getting treatment ("Maternal Care in India Reveals Gaps Between Urban and Rural, Rich and Poor" 2025). Barriers may also be posed by some areas' preference for male physicians over female physicians or by women's resistance to being examined by male physicians (Xie et al., 2023). In the majority of situations, women refuse to get disguised and treated by male physicians to uphold the pseudo dignity of the family (Ajefu et al., 2022). Additionally, women frequently lack the time and energy to prioritise their own health needs due to the significant burden of unpaid domestic chores and caregiving responsibilities, continuously prioritising their families' well-being first (Chawla, 2023).

2.5 Demographic Barriers :

Disparity in healthcare access is made worse by India's enormous geographic size and stark rural-urban division. Metropolitan areas and mofussil have a disproportionately high concentration of healthcare facilities, such as clinics, hospitals, and qualified medical personnel (Balarajan et al., 2011). Rural women frequently have to travel great distances to get to the closest medical facility, which can be costly, time-consuming, and logistically difficult, especially in the absence of reliable public transportation (Mohindra, 2019). Remote locations frequently offer poor quality care due to a lack of trained staff, necessary medications, and diagnostic tools. Because of this, many rural women are forced to turn to traditional healers or unofficial practitioners, frequently at the expense of getting evidence-based medical care.

2.6 Discriminatory Practices in the Healthcare System:

Although not always obvious, the healthcare system itself may engage in covert discriminatory practices. Healthcare professionals may be insensitive or judgmental towards women, especially when it comes to matters of sexual or reproductive health. Public healthcare facilities that are overworked may not provide the privacy and comfort that women, particularly those from conservative backgrounds, need. Women may also be discouraged from seeking care in some areas due to a shortage of female healthcare professionals, especially for exams or consultations that they view as private.

3. Empowering Women's Health Access Through Ai-Driven Mobile Health

Applications

After COVID-19, there was a dynamic shift in international politics. India is one of the first countries to produce and trade the vaccines. Give in to the circumstances of India being a country with a diverse population, making it even harder to ensure 100% of its population is vaccinated. But India has tended to achieve the goal significantly with the invention of mobile health applications like Arogya Setu (India Rolls out the World's Largest COVID-19 Vaccination Drive, 2021). India tends to achieve the SDG goal 3.7 by promoting and ensuring reproductive health for women by 2030 (Potnuru, 2020). It is a tough yet manageable task to do. Mobile health applications are empowering women and trying to provide them a safe space to discuss, elaborate, and gain knowledge of their health issues. This has worked as a catalyst for the women in India to avail themselves of health access without affecting their beliefs. Consequently, India is stepping towards ensuring universal health coverage.

These mobile health applications, specifically Telemedicine applications for women, are for both mental and physical health. The AI in these applications is collecting the health information from them and processing it to provide solutions as a means of an effective approach. These mobile health applications collect the data through AI personalised Chat boxes where the women state their issues, or real-time tracking of health vitals as done by Fitbit, or where the women can communicate with real health practitioners either over the cell or by uploading their reports for consultations. In each of the mentioned scenarios, these AI-enabled tools can analyse the symptoms. Eventually, provide preventive care to the women. The analysis is done on the basis of the symptoms. For instance, if a woman is using a menstrual tracker, then in case of delay in menstruation or by stating the colour of the blood, the causes can be identified. Some mobile health applications even suggest a remedy for curing such a situation. AI's ability to recognise patterns and make predictions is especially useful for early disease detection. For instance, AI-enabled tools can identify possible reproductive health problems that need medical attention by analysing self-reported symptoms, menstrual cycle data, and even images (for instance, to check for skin conditions or possible infection signs). AI-enabled devices are already being used by companies such as PeriWinkle Technologies in India for quick, one-visit cervical exams (Krishnatri & Vellakkal, 2024).

The most vulnerable situation in which a woman can be is during pregnancy. It is the time when a woman's health is most open to being affected by several types of infections and other physiological complications, which can result in mental stress. In order to check such scenarios, several wearable devices are available for women that detect the body vitals every second. Several AI-enabled applications are linked with other wearable devices, which keep a real-time tracking of the body vitals and alert the woman to any mishaps. The period of pregnancy does not end with the delivery of the baby. It involves postpartum care as well. The major drift of women's health occurs at the time of and post-delivery. It can involve loss of excessive blood, which may lead to death of the woman, other gynaecological complications, and postpartum depression (Nagarajan et al., 2015). Each of the problems stated is the reality of the Indian Household. Most of the rural maternal deaths and maternal physical complications are the result of ignored health access by the women due to societal pressure and stigmas. These mobile health applications are providing women a feeling of inclusivity and a sense of empowerment for owning their own bodies. The feeling of realising their bodily rights is consequently helping women to be vocal about their health rights. Subsequently, helping India to meet the SDG goal of Universal Health Coverage.

The AI-powered mobile health applications are serving as a major strength to Indian healthcare facilities. The data that these applications are collecting and processing from the women is helping the community health workers to work more efficiently. The ASHAs and Anganwadi Workers are receiving firsthand data from these applications for more effective service delivery. It is also helping governments to have a comprehensive database for further implementing any health regulations. Using timely referrals to higher-level facilities, community outreach, and SRH service delivery, this improves their effectiveness in extending the reach of quality healthcare to the last mile (Barreto et al., 2024).

3.1 Maternal Morality Rate

Although India has made great progress in recent decades, maternal mortality is still a major public health concern. The Ministry of Health and Family Welfare (MoHFW) and the Office of the Registrar General & Census Commissioner (RGI), through the National Family Health Survey (NFHS) and Sample Registration System (SRS), are the main agencies of the Indian government that regularly release reports on the trends, causes, and interventions on maternal deaths. These reports are essential for comprehending the situation as it stands today and for directing policy to further lower maternal mortality (Majid et al., 2024).

The World Health Organisation (WHO) defines maternal mortality as the death of a woman during pregnancy or within 42 days after terminating her pregnancy, regardless of the length or location of the pregnancy, from any cause associated with or made worse by the pregnancy or its care, but not from unintentional or incidental causes (Patel & Olickal, 2021). The number of maternal deaths per 100,000 live births, or the Maternal Mortality Ratio (MMR), is the main metric used to quantify maternal mortality (Indicator Metadata Registry Details, 2021).

According to Indian government reports, the country's MMR is showing a commendable downward trend. Based on the Sample Registration System (SRS) and the most recent data available, the Special Bulletin on

Maternal Mortality in India (2019–21) shows that the MMR for India has drastically decreased to 93 maternal deaths per 100,000 live births. (India Witnesses a Steady Downward Trend in Maternal and Child Mortality towards Achievement of SDG 2030 Targets | Ministry of Health and Family Welfare | GOI, 2025.). Compared to 97 in 2018–20 and 130 in 2014–16, this represents a significant decrease. This consistent decrease shows how well different government programs and easier access to healthcare have worked (India Witnesses a Steady Downward Trend in Maternal and Child Mortality towards Achievement of SDG 2030 Targets, 2025.-a).

The National Health Policy (NHP) 2017 goal of bringing MMR below 100 by 2020 has been effectively met by India. Additionally, this development places India squarely on course to meet the challenging Sustainable Development Goal (SDG) objective of bringing the global MMR down to less than 70 per 100,000 live births by 2030. Kerala (19), Maharashtra (33), Telangana (43), Andhra Pradesh (45), Tamil Nadu (54), Jharkhand (56), Gujarat (57), and Karnataka (69) are among the states that have already exceeded this SDG target (India Witnesses a Steady Downward Trend in Maternal and Child Mortality towards Achievement of SDG 2030 Targets, 2025.-b). This illustrates how targeted interventions and strong healthcare systems can produce outstanding outcomes (Saving Mothers, Strengthening Futures, 2025.-a).

Pregnant women and newborns can use the Mother and Child Tracking System (MCTS) or RCH Portal, a web-based tracking system designed to guarantee prompt and comprehensive prenatal, delivery, and postnatal care services. (Saving Mothers, Strengthening Futures, 2025.-b).

4. Legislative Framework In India To Govern The Ai-Driven Mobile Health Applications

Majorly, the prevalent legislations that govern the AI-driven Mobile health applications can be categorised into three major heads. Firstly, the legislation which are formulated to ensure the data security and privacy of the users. Secondly, the legislation that is in the form of rules and regulations regulates the activities of registered health practitioners while dealing with or associating with any private or government mobile health applications. Former laws are much more generalised laws regarding data protection, and later laws indicate specialised laws for mobile health applications. The bifurcations are as follows:

4.1 Data Protection and Data Security

Since the beginning of the inclusion of technologies in India, the legislature has formulated one parent act, which is known as the Information Technology Act, 2000. One of the objectives of the legislation at the very initial stage is to counter, identify, and penalise the cyber crimes of contemporary periods. Consequently, the legislation failed to protect against data breaches, and eventually, Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011, were enacted. The Rules entail the definition of 'sensitive Personal data'. While discussing the definition for the first time, medical data has been categorised and comes within the purview of Sensitive personal data. In the absence of any other legislation, the rule provided partial data protection for the health data that are collected by these mobile health applications (Gnana Sanga Mithra & Bhavana, 2025). One of the major lacunae that these above-mentioned legislations faced is the non-inclusion of automated technologies. In other words, the legislation's jurisdiction does not cover the data that are generated by any algorithms through profiling. India does not ban Profiling per se in any of its legislations. The reason for the same is that it is one of the techniques to boost the marketing strategies. But initially, the idea of profiling of the consumers or users by the organisations were very limited to a human-centric approach and analysis. With time, the definition of profiling has changed, and now the organisations of the data collectors and data processors are involving the algorithms to have a targeted approach to their users. The non-inclusivity of the Automated decision-making approach of the Information Technology Act and Rules is making the existing legislation redundant.

After the Digital India initiatives by the government of India, the way to decide discussions of data protection was being taken into consideration. Also, with the COVID-19 effect, the government finds it a need of the hour to address and settle the issue of data protection. Thus, in 2023, the Digital Personal Data Protection Act, 2023, was enacted. Many provisions of the Information Technology Act, 2000, are now governed by the DPDP Act, 2023. The legislation extended its jurisdiction to offer protections even for the data that is generated through automated decision-making. Section 6 of the said Act discusses the new definition of how the Consent of the users is to be read. This legislation applies to the mobile health applications that are powered by AI. One of the most significant milestones that this legislation has taken into consideration is using the word 'she'. Unlike other laws in India, the legislation has defined 'she' to include 'He'. The legislation is nothing but a promotion of the idea of empowering women. The consent mechanism that is discussed in the provisions is explained in the DPDP Act, 2023, operates. The AI-driven Mobile health applications of India, as well as the Applications that may not be of Indian origin but provide services to Indian Consumers, have to follow the same procedure while dealing with the users' data. Since women's data are more prone to being manipulated due to societal effects, each of the mobile health applications' privacy policy entails the following steps. The applications have to provide a notice as to the use of data and how data minimisation is to happen. Only after a legitimate notice is the user's consent to be taken into consideration. While collecting health data collection the data processor of the mobile health applications has to ensure that all the thresholds of section 6 of the Act are complied with. The data collection and processing have to be done only for the legitimate use as stated in section 7 of the act.

For instance, if the data is collected by a period or pregnancy tracker application, it has to be processed only to provide reasonable outcomes. The data cannot be used or shared with mobile health applications that deal with health policies or telemedicine without the prior consent of the user. Once the legitimate use is reached, the data of the users is to be retained only for the prescribed number of days, which is of six months. The legislation suggests that users have to be provided with the option of a data withdrawal request or the right to erasure. Under no circumstances do the data processors of the mobile health authority have the right to deny such a right.

4.2 Regulations for Medical Device Operations

Unlike the above-mentioned legislation, there are some Rules, although not Acts, which regulate the mobile health applications. In 2017, the Ministry of Health and Home Affairs issued a notification confirming to the Global Harmonising Task Force and formulated guidelines for medical devices in India, which are known as the Medical Device Rules, 2017. The rules bifurcated the medical devices into four categories based on the risk assessment mechanisms. These are as follows: Class A (low risk), Class B (low to moderate risk), Class C (moderate to high risk), and Class D (high risk) (Health Ministry Notifies Medical Devices Rules, 2017,). The rule created a Body for notifying and providing accreditations to ensure the highest form of professionalism and to restrict the third-party assessment risk. The Rules mainly worked on regulating the channelising of the procedures and licensing mechanisms for the producers of the device. The Rule of 2017 may not expressly state its jurisdiction towards mobile health applications, but the essence and objective of the Rule try to regulate the authorities of Mobile health applications.

After the Ayushman Bharat mission and upsurge of the AI-driven Mobile health applications, the Ministry has formulated direct guidelines for the telemedicine mobile health applications in 2020. The mere creation of the guidelines entails the need for specific and dedicated legislation for AI-driven Mobile health applications (Hazra & Bora, 2025). The Ministry opined that remote medical services can empower every weaker section of society, including women of every stratum. The Telemedicine Practice Guidelines, 2020, were formulated. The guidelines of 2020 are not for all types of mobile health applications, as suggested in Figure 1. The telemedicine applications involve the Registered Medical Practitioner (RMP). The guidelines in its 3.4 pointers state the need for the collection of consent from the patients. The guidelines ensure that express consent should be obtained by the telemedicine mobile health applications. This express consent can be collected through different methods. It further states in 3.7.4 of the guidelines the parameters for prescribing the types of medicines. The guidelines indicate certain specific restrictions on the prescribing of the medicines. The list has been categorised into List O, List A, List B and the prohibited List. List O suggests the generic medicines that can be prescribed after the first consultation online and after assessing the general symptoms. These kinds of medicines are like paracetamol. List A is the medicines that are nothing but refill options. Where first consultations are done through video conferences, and the same medicines are to be re-prescribed. List B is the scenario where additional medicines are to be prescribed by the RMP after an in-person consultation. And the last is the Prohibited List, is the one under which, under no circumstances, such medicines can be prescribed. The types of medicines that have a higher potential to harm human health. Additionally, the guidelines state that under no circumstances can the drugs prescribed under the Narcotic Drugs and Psychotropic Substances Act, 1985 can be prescribed in any telemedicine consultation.

The list O provides that the mode of consultation will be through videography, audiographer or chat boxes. This list O permits prescriptions of only over-the-counter medications that are primarily necessary during public health emergencies. The next List A permits only video call consultations and thereby prescribes medications specifically to the issues, and the same prescriptions can be presented for refill. List B restricts only follow-up for the chronic diseases which are previously consulted with the expert in person consultations. Ultimately, a prohibited list restricts medications listed in Schedule X of the Drugs and Cosmetics Act and Rules, or any narcotic and psychotropic substances listed in the Narcotic Drugs and Psychotropic Substances Act, 1985. (Dinakaran et al., 2021)

5. Comparative Analysis Of Legislative Framework In India With Eu Gdpr

The EU is a classic example of how to formulate AI-driven Mobile health applications for the needs of the hour and also to combat the challenges arising out of such inventions. The EU has developed a concrete layered protection for regulating AI.

General Data Protection Regulation (GDPR), which is regarded as the bible for data protection, has been helping the EU to uphold data Privacy since 2018. It is pertinent to mention that most of the data protection regulations all over the world are nothing but a replica of GDPR. For instance, the DPDPA in India is a reflection of GDPR. Not in its true sense, my basic alma mater remains the same. The GDPR entails the health data within the 'Special Categories of Personal Data', or in other words, sensitive personal data, as stated in its Recital 32 (Lukács & Váradi, 2023). Health applications with an influence of AI have to follow strict thresholds. Starting from collecting explicit, specific, and free consent has to be taken into consideration. While processing the data collected by the health applications, the GDPR provides restrictive conditions. The GDPR provides an option to the users of the Health apps to access, correct, or even request the erasure of the data (Yang et al., 2025). Since health applications are working with sensitive data, the GDPR makes it a mandate for a Data Protection Impact

Assessment to reduce the Privacy risk. In the case of the contrary, a strict 72-hour buffer time is given to identify the reason for the data breach (Maher et al., 2023).

Unlike GDPR, even though the DPDPA is to a great extent a replica of GDPR, the Indian version of data protection has failed to categorise the types of data. In DPDPA, there is no significant bifurcation of data into personal data and sensitive personal data or special categories of data. The situation has insisted on treating all forms of data on the same thresholds. The health data that is collected by Health applications in India involves private as well as government applications.

Other than GDPR, the EU has further formulated regulations specifically for medical devices, which are used in diagnosis. These are the Medical Device Regulation (MDR) and the In Vitro Diagnostic Regulation (IVDR). These regulations are made specifically for the medical devices that are AI-powered or software algorithm-based. The regulations have made categories based on the types of medical services that these AI-driven Health applications are providing. Subsequently, provides procedures to be abided by the applications (Häuselmann & Custers, 2024). This determination is based on risk assessments that are done by the certified authorities of the EU. A similar kind of guidelines are in existence in India. That is the Medical Device Rules, 2017, which categorises the medical devices into Classes.

Furthermore, the EU AI Act came into effect from August 2024. The Act has provided a Robust idea of regulating AI. The Act has channelised the use of AI based on its risk factor implications. Since the GDPR has classified health data as a special category of data, the EU AI Act has identified health data as high-risk data (Leijten & van der Hof, 2025). Thus, all the AI-driven Mobile health applications involve high-risk data. These applications have to meet rigorous essential obligations. The applications have to maintain strict compliance with explicit consent-taking mechanisms, ensuring transparency as regards data management, to maintain detailed documentation of the data used for legitimate purposes, and so on (van Kolfchooten & van Oirschot, 2024). The Act has strictly banned the manipulation, alteration, or exploitation of data that is certified as 'High Risk Data'.

Unlike the EU, India has not formulated any such legislation that explicitly deals with the AI implications. India is yet to enact such robust legislation.

The precedents of the EU do not entail the same tone as that of India. The ECJ judgment assisted in clearing out the ambiguity that could arise from the EUGDPR interpretation or on the subject matters in which the legislation is silent. In Schrems II C-311/18, the court has vividly clarified that the power of surveillance by the state must have a restrictive approach, and each state must have adequate protection equivalent to the EU when such data transfers are occurring. Furthermore, in Planet 49, while emphasising the significance of the privacy policy of the applications, the court stated that any pre-ticked boxes, while affirming to the terms and conditions of the applications, will not be equivalent to the consent of the users. In the latter case, the GDPR is silent, but the interpreting authority has rightfully pointed out the ratio with the reasoning. Unlike the ECJ, India has a vacuum on the scope of the adjudicating authority. The DPDPA has suggested forming a tribunal with experts and judicial officers in the panel, but execution is still stalled. Irrespective of the existence of the adjudicating authority, the laws are very limited and silent on disputes arising from sensitive personal data. Nevertheless, the legislation on data protection has created a vacuum by ignoring the right creation.

Further comparisons can be discussed in Table 2 :

Categories	India	European Union (EU)
Data Protection Law	There are currently no particular laws; the IT Act of 2000 and the SPDI Rules govern it. The 2023 draft DPDP Act has been tabled.	General Data Protection Regulation (GDPR) – a comprehensive data protection regulation (since 2018).
Ai- Specific Legislation	No specific AI law exists; instead, policy guidance is provided by NITI Aayog's AI strategy (2018).	AI Act (2024) – the world's first comprehensive regulation on AI, with a risk-based classification.
Mobile Health App Regulations	Regulated loosely under the Medical Device Rules, 2017 (if classified as a medical device).	Covered under Medical Device Regulation (MDR) 2017/745 if the app has a medical purpose.
Consent-taking mechanism	subject to lax regulations under the 2017 Medical Device Rules (if a medical device).	GDPR requires explicit, informed consent for health data with strict rules on withdrawal and access.
Definition of Personal Data	In accordance with the IT Act and SPDI Rules, sensitive data must have "reasonable security practices" and consent	GDPR clearly defines personal, sensitive, and health-related data.
Enforcement Authority	Currently under the Ministry of Electronics and Information Technology (MeitY) and CERT-IN.	Enforced by Data Protection Authorities (DPAs) of each EU member state under the European Data Protection Board (EDPB).
Cross-border Data Transfer	SPDI is more vaguely defined; it includes "sensitive personal data" such as medical	Allowed only to countries with adequate protection or with standard contractual

	records.	clauses.
Right to be Forgotten	Present in the DPDP Act, not currently enforceable under the IT Act.	Strongly enforced under GDPR Article 17.
AI Explainability & Transparency	No enforceable requirement; mostly advisory.	AI Act and GDPR require explainability, fairness, and human oversight for AI systems.
Health-Sector Specific Guidelines	NDHM under Ayushman Bharat Digital Mission (ABDM) provides a voluntary data governance framework.	The EU has eHealth Digital Services Infrastructure (eHDSI) and European Health Data Space (EHDS) under development.

(Mental Health Apps in India: Regulatory Landscape and Future Directions | BJPsych International | Cambridge Core, (2025))

6. Conclusion

The paper aims to understand the correlation between digital applications in erasing healthcare access disparity and bridging the gender disparity. While reaching the aim, it has been taken into consideration that India is the largest economy in terms of consumers of mobile-based applications. Due to the historical practices, there is a major part of the community in India where women have very limited or nil access to basic health care facilities. The reports and studies as discussed in the papers imply that women tend to prefer AI chatbots in the mobile health applications rather than initiating a conversation to any human medical personnel. The foremost reason for such a preference is the level of secrecy these applications provide in the prima facie. Women in India who are unable to discuss their mental and physical alterations with age in an open forum are getting a personalised AI that listens to their needs. The reason is quite evident that with the rule of nature, each woman undergoes physiological change at three to four phases, which adversely affect her mental health as well. Firstly, while hitting puberty, there is a significant hormonal change. Secondly, if the woman conceives a fetus and eventually gives birth, thirdly, the postpartum period or postnatal period, it is in this period where death can if proper medical access is provided and lastly, the period of menopause. In each of the stages, each woman's experience is completely different, followed by the symptoms. Nevertheless, these medical conditions associated with all other types of medical conditions need to be taken care of at the necessary and regular intervals. It is also an evident fact in India throughout ages, as already discussed, that access to women is denied or given very little importance. The consequences of the same are maternal death cases. The mobile health applications in India, after the Digital Revolution and COVID-19, have facilitated bridging the gap. But the prima facie privacy that the woman feels while using the mobile health applications may not be that private in the real-life scenario. There is no doubt that the mobile health applications are working as a safe haven for women of all sectors, but the greater harm lies in the data protection issue. India, till today, is unable to formulate any concrete statutory authority or any regulation that will specifically deal with the manipulation of health data by the private players in the health industry. One needs to understand that these mobile health applications are empowering women by letting them understand the need or the fundamental right to have health access. These mobile health applications are serving towards ensuing India's power to meet the SGD goal of universal health coverage. The Missions of Digital India and Aysuhman Bharat is an result to achieve the goal. Nevertheless, these government and private mobile health applications many a times fails to ensure the privacy of its consumers. Almost all users of these applications tends to ignore the privacy policies that re attached to the applications. The reasons for the same is very less digital literacy rate, language barrier, consent fatigue, pre ticked boxes and so on. Since in the absence of any specific regulation most used mobile health applications like Practo, 1mg (for private health applications) and Poshan Tracker, Arogya Setu Applications (government mobile health applications) are permitting third party data transactions. In order to provide better outcomes these applications are ignoring immediate threats to data breach, black box effect and so on. Nevertheless, the paper have tried to uphold how the mobile health applications are covertly adding up to minimizing the gender gap and empowering woman to own their health and body rights. In India the previously there was Information Technology Rules 2011 which used to define the 'sensitive personal data'. The definition included health data as well. But nevertheless, the scope was very limited and the digital transfer of health data was not foreseen. With discussion, in 2023 the Digital Personal Data Protection Act, 2023 was enacted to bifurcate the cyber law with technology law. The liability shift was taken into consideration. Although India has come a long way of ensuing minimization of gender disparity but more rad ahead for ensuing women to leverage their rights with their health data being secured from exploitation.

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Declaration Of Interest

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