

An Analysis of Women Safety Apps in India: Crime Against Women

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ABSTRACT

Crime against women in India is 66.4 percent cases against per lakh as per Crime in India (2022) and India stand at the bottom of the global crime statistics and the efforts made to enhance women safety through mobile app. These mobile apps were the safe guard the women with women safety apps at night, specifically for working women, to prevent crime against women and children. These apps are more advance, modernized, the commonness of features these apps have been Save Our Soul (SOS) alerts, GPS tracking & Emergency Dial (100,112), in some apps there is have unique feature like video/audio recording, real-time tracking, e-complaint etc., The lack of women security is major concern in every part of the country. Therefore, this study will focus on the usefulness of the women safety apps and analyze the women safety app with crime against women data of the crime in India. Also, this article highlights the importance of technology in security and address the gender-based crime and suggests the preventive methods with the use of safety apps crime against women.

Keywords: *Women safety app, Violence against women, Technology, Save Our Soul, Security*

In India, women have always as considered goddesses since ancient times. In ancient times women are more socially stronger than today and share made a huge contribution in ruling the kingdom to the making decisions for household. As we found the reference in our historical epics “Ramayana” and “Mahabharata” where the male people are known by their mother’s name “ganga putra bhishm”, but today, women are facing inequality in every aspect of life and the increasing crime against them in a daily basis, a crime like rape, domestic violence, kidnapping, stalking, eve teasing etc. Nowadays women are facing more fear or threat to ever after. The prevalence of sexual violence affects women across all age groups, including those in their 70s & 80s, as well as children invariable all ages, who are subjected to the heinous crime of rape. In today’s environment of society, the safety of women has become a big question and a persistent issue. Numerous studies across the globe have explored the underlying causes behind the uprising incidence of crime against women. In the current situation, the violence and the increasing crime against women are seen by everybody over the world in some or the other way, it shows the tremendous and meditation of the monster executed against women as of late. One significant factor often refers to the

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increasing visibility and participation of women in all aspects of life. Women's participation in every field of public, private, cooperate, space etc. and providing a contributing to GDP. Women are stepping out of their homes to do work that makes them financially inherence, now women are working during at night hours like men counterparts should raise a big question about women's safety. However, this progress in gender roles has not been matched by a corresponding shift in societal attitudes. The society still has a patriarchal mindset towards the women that women are just for the house. While there has been notable improvement in challenging patriarchal norms over the past decade, deeply ingrained biases and inequality still persist. As a result, women continue to face various forms of threats to their safety, including eve teasing, sexual violence, domestic violence, harassment and other forms of gender-based violence. A large number of these crimes go unreported due to societal and family's reputation, family's pressure, leading to a significant disparity between actual incidents and those reflected in official statistics. The emotional and psychological trauma inflicted by acts of sexual violence is profound and when compounded by the slow pace of the judicial system in India, it becomes evident that relying solely on justice after the fact is not sufficient. (Tamilselvi & Getrude, 2021).

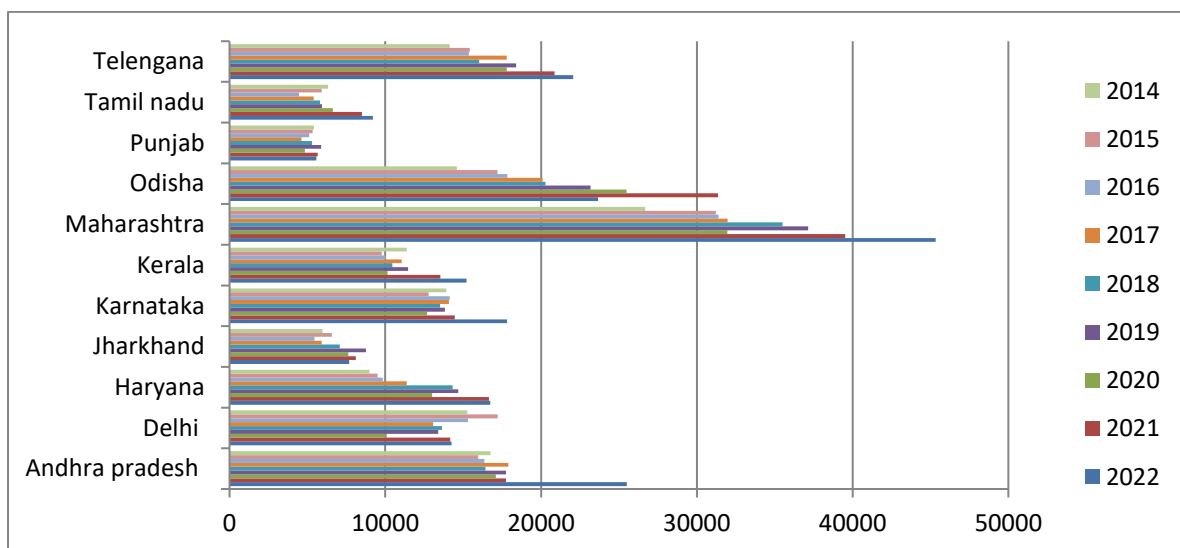
Women are always under the threat of crime against them or have a fear of getting any wrong happened to them and these things are given a constant stress and damaging their social well-being life. The growing rates of crime against women are given an inner fear of every woman who steps out of their home. These things have effects on both social and economic and as a good solution to this problem as well as to evoke the confidence level of women by giving them their freedom and their safety though technology was put into practice. Numerous companies have developed various mobile apps aimed at ensuring women's safety. These mobile apps are developed to instill a sense of empowerment in women and assure them of their safety by keeping their close contacts, SOS alert, GPS tracking and other important features that will help or inform about them just by a click of a button. women are right now are taking a stand for them self it's bold action and currently women are expressing their emotions and feeling on the social media and showing support to others also as recently the RG Kar Medical College (2024) case of Kolkata is the example of the power of social media which can't be ignored but there is flows also that women who are taking a stand for them self is easily get trolled and received a threat and fear from the people of society, now a day's a people are showing the brutal world of social media where women are get a comment of being raped and murder threat is common here.

Women's safety is become more questionable when they travel alone for the daily core to vacation travel, the trend of solo travel is high-on in the women section so when they travel alone the safety of them is a new threat and currently the women is also involved in the night shift work, the company is giving services to the female employs to book a cab for them, but in the past, the rape cases which are done by the drivers in the cab are increased, which gives a threat to the women. Mobile apps tech gives a new feature in them to share a live location of the passenger to the high authority and the family, friends can track. In the transportation market, there is many apps are present such as Ola, Uber, Rapido, CabBazar, MakeMyTrip etc. These apps are become a part of the modern life and the safety of a women is again at the risk, to prevent such cases the companies of these apps are having a features like GPS tracking SOS alerts, locations share, police helpline numbers, drive name, the details of the vehicle, CCTV present at the cab, (Tamilselvi & Getrude, 2021).

In the report of the NCRB in 2022 the crime against women cases were registered 4, 45,256, and the previous year was reported 4, 28,278 that 4% as compared to 2021 had increased. In

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2022 over 4.45 lakh cases of crime against women were registered with equivalent to nearly 51 FIRs every hour in India. The rate of crime against women per lakh population stood at 66.4 while the filing of charge sheets in such cases was pegged at 75.8. The state/UTs crime rate: with 14,247 cases in 2022, Delhi has recorded the highest rate of crimes against women in the country at 144.4 per lakh, way above the country's average rate of 66.4. Uttar Pradesh (65,743) registered the maximum FIRs in cases of crime against women in 2022 subsequently Maharashtra (45,331), Rajasthan (45,058), West Bengal (34,738) & Madhya Pradesh (32,765) these five states together are contributing to 2,23,635 (50.2%) of the total cases lodged in India 2021(Khan Global Studies), according to the NCRB these reports are the eyes opener for the people of the society that the crime against women is rising every year and these states are record the highest cases of violence and even available of effective laws, In present era most of the women are have a mobile phone in their hands and that mobile can convert into safety device to prevent from victims of crime. Presently in India had 1.12 billion active cellular mobile connections and 690 million users of Smartphone's in 2024; it's growing this market as 12% every year. The 64% of the total female population is using the Smartphone as per the 2023 study (Sun, 2024)



In this bar diagram the crime in India is mentioned in year wise 2014-2022, the most cases of crime against women are come from states like Maharashtra, Odisha, Andhra Pradesh, Telangana, Karnataka, and Haryana.

Although a lot of steps are being taken to fight sexual harassment and violence against women's, there's still a harrowing increase in the crime, especially in a nation like India where womanhood is celebrated and glorified. In a bid to tackle this recurrent problem, some state government has resorted again to technology as a support mechanism. In appreciating the compelling need to transmit information more quickly between the people and the police, the government has given prominence to the creation of mobile apps that allow persons to contact the police through the Click of a button. It is considered that utilizing technology can be a great help to people in need by enabling them to ask for immediate, assistance from their relatives, friends or authorities, with this idea in mind, various mobile apps have been developed to empower citizens and make them safer, in this the study of government apps which provide a help to women from any violence and harassment.

REVIEW OF LITERATURE

Yadhynath et.al., (2024), conducted a study on “An integrated mobile application for enhancing women’s safety- a comprehensive approach”, they were presented this article at IEEE International Conference for Women in Innovation, Technology and Entrepreneurship on introduces a mobile application called “Wosapp” (Women Safety App) that provide women with a reliable way to place an emergency call to the police, using GPS tracking, machine learning and real-time alerts. They concluded that the system effectively bridges communication between women and law enforcement, enabling faster response and enhancing safety through predictive threat detection.

Kumar & Rani (2019) undertaken a study on “Women safety through mobile apps” Mobile applications have become vital tools for women’s safety, offering features such as emergency SOS, real-time location tracking, safe route navigation, and crowd-sourced area safety ratings. Apps like BSAFE, SAFETIPIN and HIMMAT allow women to single distress at the tap of a button. These apps are particularly important in urban spaces where the risk of street harassment, assault and abduction are higher and concluded that such mobile technologies significantly enhance women’s security and recommended expanding features for broader accessibility.

Tamilselvi and Getrude (2021) carried out a study on “Shelter in safe hands - A Study on the Usage and Effectiveness of ‘Kavalan’ SOS App among Women in Tamil Nadu”. The researchers focused on the women safety and how much the app is useful for the rural and urban people. Data was collected through surveys conducted online using Google Forms with 150 responded and the findings shows that the use of kavalan SOS technology is a safety app and it is a very effective method, technology makes a effect to prevent the crime against women, and safety has to be for every section of the society rather than limiting it to only urban folklore and not reaching out to the rural sections for lack of funds.

Sarma, et.al. (2023) studied on “Android –based women safety app”. The researchers adopted a user-centric approach, incorporating feedback from women to design and implement a practical safety application in developing the Android-based safety App. This research work focused on developing an app that includes features like emergency alerts, GPS tracking and integration with social media platforms. The study concludes that the developed App effectively enhances women’s safety; there are already existing electronic devices and software tools which are used for the safety of women but after going through researchers some of the recent tools they found that there are gaps in those devices and becomes tricky while want to use in time of need. In the end, the researcher suggested that to develop this App to remove existing drawbacks.

Aruna (2023) conducted a study on “Women safety app for improved personal security” this paper discusses the development of an android app that aids in protecting women in various situations. The app was developed using the waterfall model, a sequential software development process encompassing phases such as requirement analysis, system design, implementation, testing, deployment and maintenance. Features of the women’s safety apps including GPS position monitoring, voice recording for situational proof, a siren to alert passersby, a spy camera, detection and direct connection to emergency services. Overall, a comprehensive women’s safety app can be an effective tool in creating a safer environment for women.

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Vasasetti, Sanjeevi, and Yogi (2024) presented a study on “Development of hybrid detection and alert mechanism for women safety using AI” This study explores the integration of AI-based smart surveillance system to enhance women’s safety. It discusses the impact of advancement in information technology, particularly mobile applications, GPS tracking and social media platforms on improving women’s safety, and support during critical situations, thereby empowering women with enhanced safety measures and peace of mind in various environments. The study highlights the developments of apps like *Circle of 6* and *be safe*, which offer immediate access to emergency services.

Priyanka et.al., (2024), conducted a study on “Transforming women safety with information technology: A mobile real-time intelligence framework”, this research paper proposes a real-time intelligent system for women’s safety (at a one click to connect the user to the ambulance, police, location share, friends and family, doctor, experts, fire department, store the evidence such as audio/video recording), leveraging technologies like machine learning, artificial intelligence, and data science. The system includes features such as live location sharing, safe route prediction, and evidence recording and legal rights guidance for women in distress. The result of the study is mobile real-time intelligence framework using IT significantly enhances women’s safety by enabling rapid response and proactive prevention.

Objectives of the study

- To assess the usefulness of the women’s safety apps.
- To analyze the women’s safety app with crime against women data of the crime in India.
- To evaluate the awareness with women’s safety apps.

METHODOLOGY

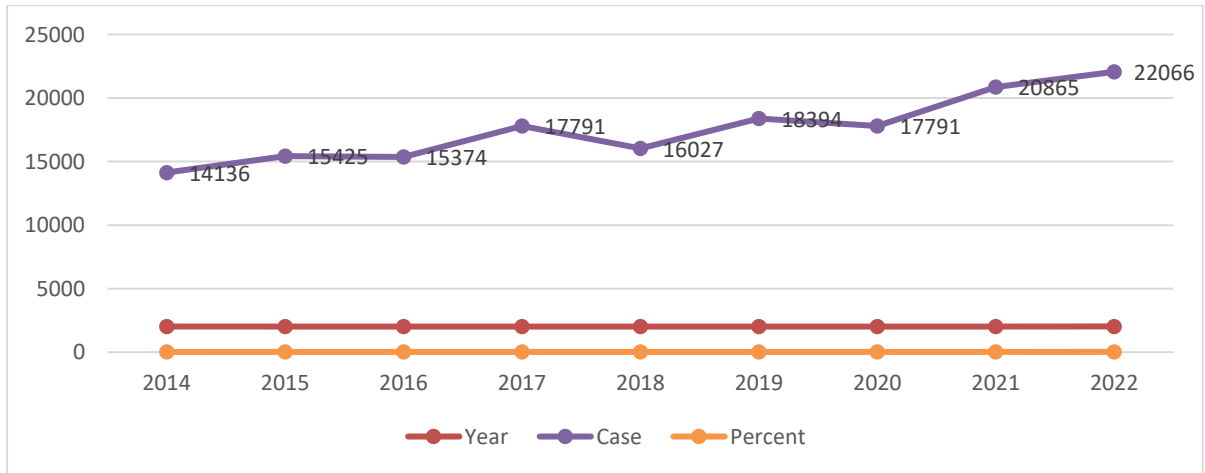
The study evaluates whether women’s safety mobile apps have helped curb violence by systematically collecting information on major safety apps, comparing their features, and analyzing crime trends using NCRB data from 2014- 2022. A comparative analysis of similarities and differences among the apps was conducted, followed by correlating crime rate changes to assess the technological impact.

Analysis and findings of the women safety apps in the various states in India and its effectiveness

She Teams app / hawk eye

The she team’s app initiated and launched by the Telangana police on October 24, 2014, it aims is to enhance women’s safety and security across the Telangana State. It operates under the women safety wing, she teams app is work to stop the cases of harassment and ensure a safe environment for women. She teams services into several digital platforms in those several one of them is hawk eye enables citizens to report crimes, including harassment, directly to the police, with features like audio/video recording and uploading. The key features are counseling and legal action. Presently 341 she team’s functioning in the state of Telangana. ([https:// womensafetywing.telangana.gov.in](https://womensafetywing.telangana.gov.in))

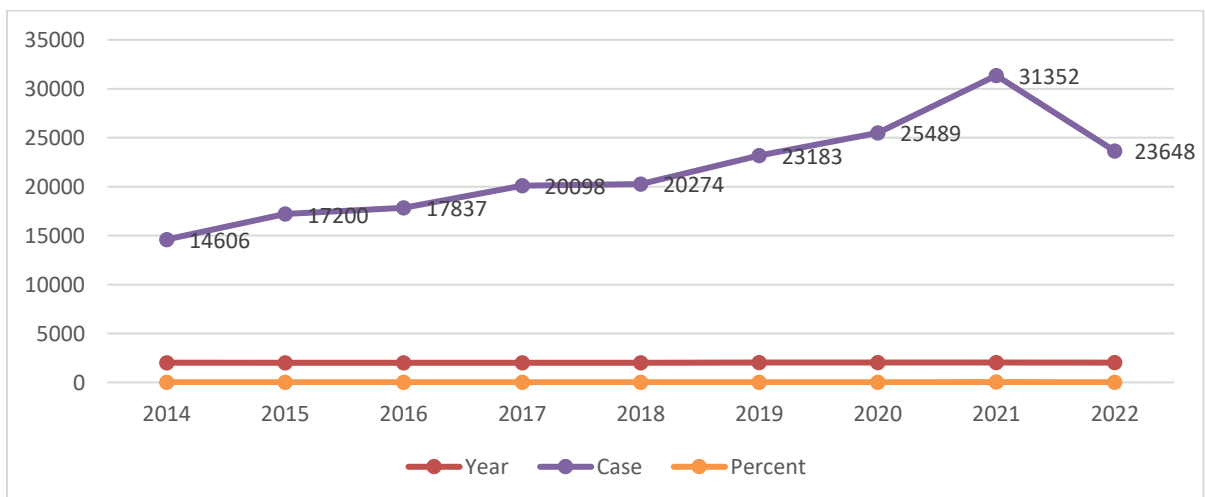
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The women safety wing, SHE TEAMS hawk eye is launched at 2014 but as in 2022 the crime against women is constantly rise. The crime percentage is increased 2.8 % in 2022 as compare to 2021.

Mo Saathi App

The Mo Saathi App was a women’s safety initiative launched by the Odisha Government in May 2015, specifically targeting the twin cities of Bhubaneswar and Cuttack. Developed by the Bhubaneswar –Cuttack Police Commissionerate, the app aimed to provide immediate assistance to women in distress. Users can download it from the Google Play store /ios App store for iPhone. To utilize the app, women were required to register by providing personal details such as a name, mobile number, email ID, address and contact information of at least three relatives or friends. Upon registration, the Mo Saathi app was particularly beneficial for working women who often travel alone at night; it provided a sense of security by ensuring that help was just a button press away. The GPS technology allowed police to promptly located and assist users in distress. In 2019 September the Odisha police merged the mo saathi app with sahayata app to provide a more comprehensive and statewide platform for citizen services, key features of app is SOS alert, audio/video recording, emergency contact, group creation, The women population of the state is 23million (2.3 cr) as per the census 2011 and NCP (MOHFW) Government of India report : population projection for India and states 2011-2036.The downloads of this app is 50,000(Play store) ,and the coverage of the app is 0.2% of the total women population. (Mohapatra, 2015)

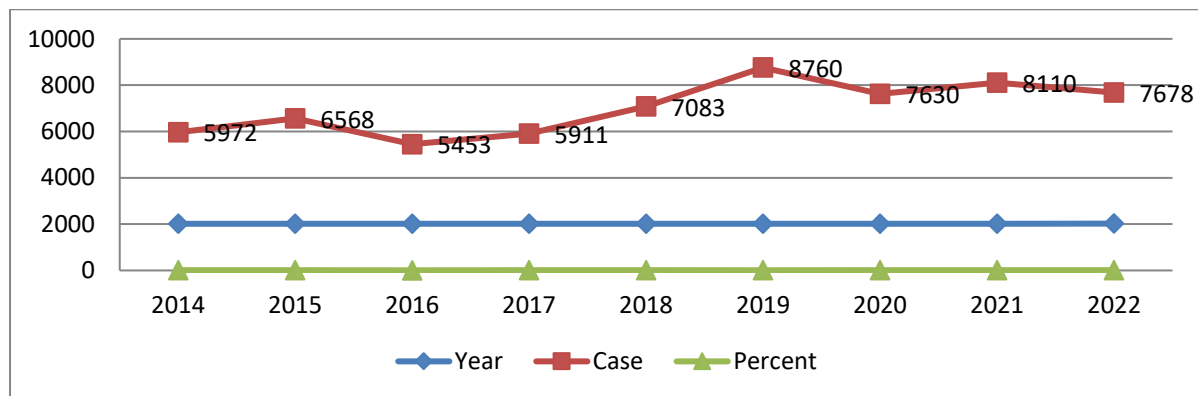


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The app Mo Saathi is launched at 2015. As per data of NCRB the App is not make any difference to decrease the number of cases up to 2019 but in 2022 the cases are low. The average percentage of crime is 21.5 percent as per 2014 - 2022 of the Crime in India data of crime against women.

Shakti app

The Shakti app is a women's safety mobile app developed by the Jharkhand Police to provide immediate assistance to women's in distress. The app was released on 8 September 2015. It enables users to send emergency alerts directly to the police control room and their registered emergency contact. The app is available for Android devices and can be downloaded from the official Jharkhand police website or authorized app store. Upon installation users need to register by providing their name, mobile number and details of at least three relatives or friends to as an emergency number. Once registered, users can activate the emergency alert feature by pressing the help button. Key features of the app are emergency SOS alert, location, safety tips, safe place, and emergency contacts, the women population of the state is 17 million (1.7cr) as per the census 2011 and the population who are used this app is more than 10, 000, this shows a coverage is 0.06% of total women population of Jharkhand. (<https://www.jhpolice.gov.in/shakti-app>)

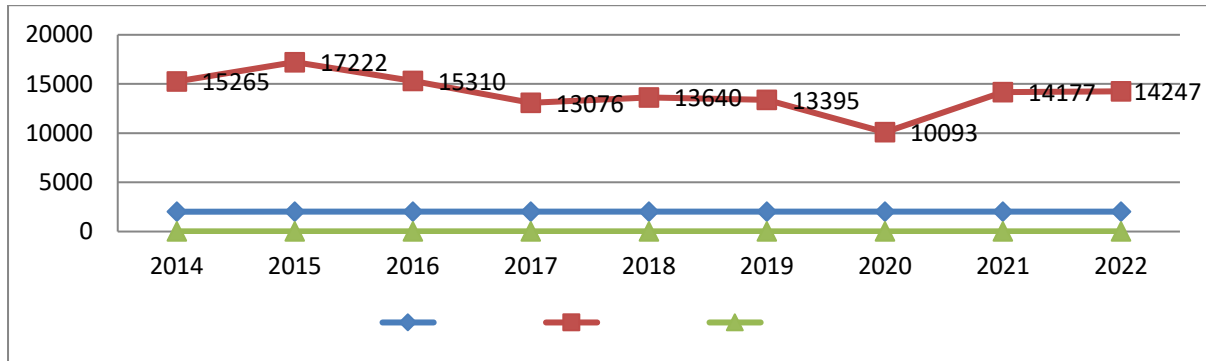


Since launching of the Shakti App in Jharkhand the number of Crime against women cases constantly decreased and increased up to 2022. The average percentage of crime rate is 7.01% according to NCRB data from 2014 -2022.

Himmat App

The Himmat App was launched by the Delhi police on January 01, 2015, with the partnership of Smart cloud Private Ltd., under the direction of the Ministry of Home Affairs (MHA), Government of India was designed specifically to enhance women's safety by providing an easy, quick service for women in distress to reach police authorities and trusted contacts. It aims to enhance that the safety of women particularly those who travel alone or during late hours. Upon installation users need to register by providing their name, mobile number and, details of at least three relatives or friends to as an emergency numbers. Once registered, users can activate the emergency alert feature by pressing the help button. Key features of the app are emergency SOS alert, location, police notification, QR code cab/auto, social media integration, and emergency contacts, the Delhi's women population is 8.2 million (82 lakh) as per the census 2011 and the active users of the app is above 5,00,000, the coverage is 6% of the total women population in Delhi (<http://himmat.delhipolice.nic.in>).

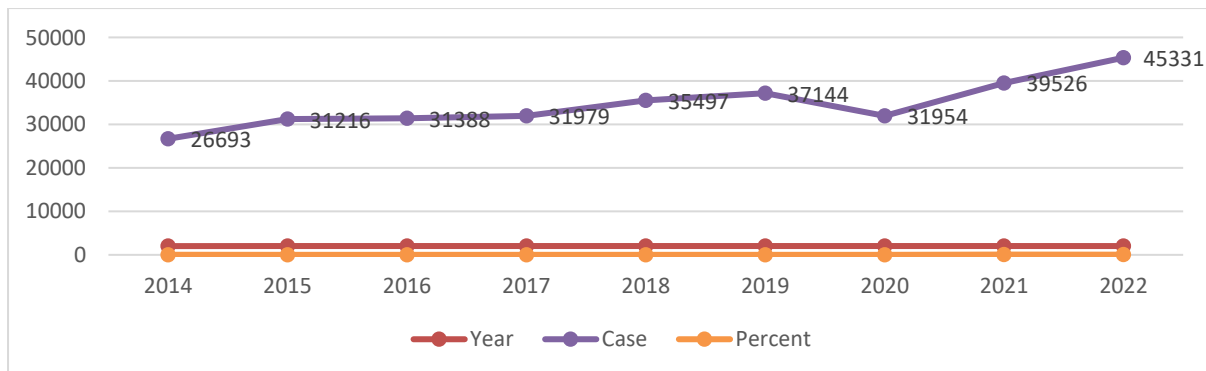
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This app of DELHI HIMMAT is launched in 2015, since launching this app the crime against women were come down as per the data of NCRB. The average percentage of crime against women according to Crime in India from 2014-2022 is 14.04 percent.

Pratisaad App

The Pratisaad app is a safety app developed to enhance emergency response for the citizen; specifically focusing on women's safety launched by the Maharashtra police in 2016, the aim is to provide swift assistance during emergency situation by connecting users directly with nearby police personnel. While the Pratisaad app was introduced with the intention of improving the emergency response, there have been reports highlighting challenges in its effectiveness. It was promised that the app's emergency icon in would notify an alert to on-duty policemen for immediate response. The key features of the app emergency are alerts, dual versions that ask for citizens and police personnel, location tracking, user-friendly interface the women population of the state is 54 million (5.4 cr) as per census 2011 and the users of the app is less than 100,000, the coverage is 0.2 percentage. (<https://www.mid-day.com>)



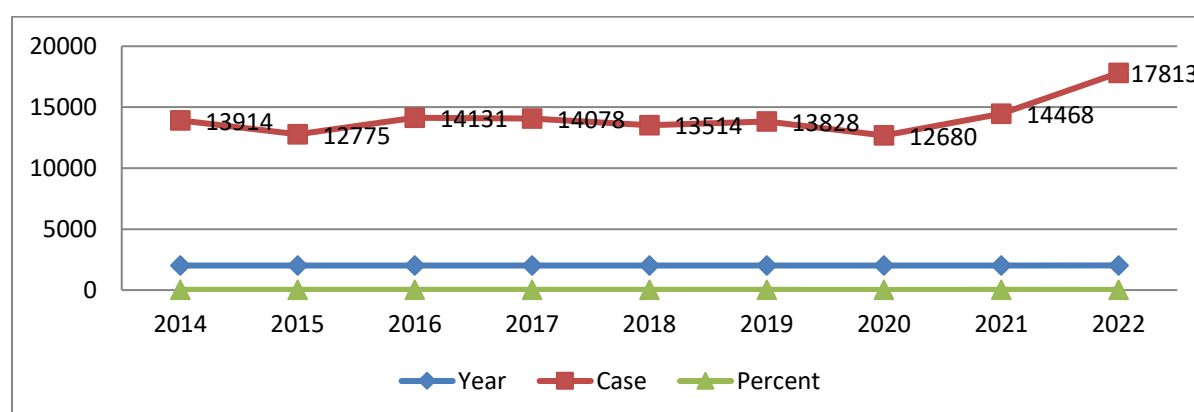
The Maharashtra State Pratisaad App is introduced in the year 2016. From starting the case of the crime against women are continuously raised every year till 2019 and 2020 is shows a low case registered and after that again cases are increased in 2021-22. The average percentage of crime against women according to NCRB data from 2014 -2022 is 34.53 percent.

Suraksha App

The Suraksha App is a personal safety application developed by the Bangalore City Police in collaboration with Trinity Mobility Private Ltd. This app was launched by the police of Karnataka in April 2017. The aim of this app launched is women's safety at night, and for the working women who work at late night and travel from the in cab or taxi to give them security. since it's launched App has been downloaded 10, 00,000 user. The Bangalore city

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police have actively promoted the app, urge women to utilize it for their safety. People can download from the Google Play store at free of cost /ios app store for iPhone. After the App download user have to register them self and required to fill the few information in the app such as name, age, gender, address, location, mobile number and emergency contacts. Key features of the app are: SOS activation users can trigger a SOS alert by pressing the power button five times. This action sends an immediate alert to the police control room, video recording feature is also had in this 10-second video is record, GPS tracking, emergency contacts, and integration with the police dispatch system is ensuring that the near patrol unit is reach at location. The woman population of the state is 31 million (3.1cr) and This App was downloaded by more than 5, 00,000 lakhs, presently 1.6 percent of the women population were downloaded this Suraksha Women's Safety App (<https://apps.karnataka.gov.in>).

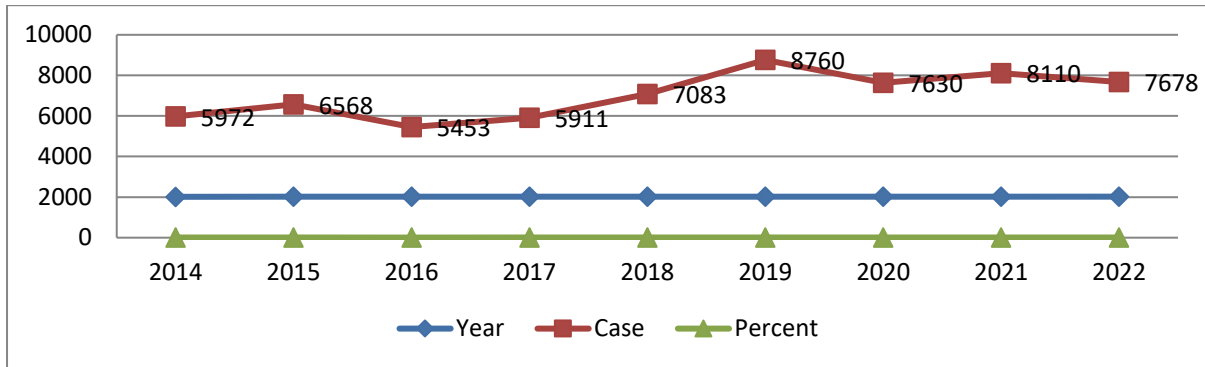


This App was available for the citizen of the Karnataka State from April 2017, the data shows in the graph the cases of crime against women were decreased since 2017 and made a good result up to 2020 later it is increased. The average percentage of crime against women according to NCRB data from 2014 -2022 is 14.13 percent.

Shakti app (Punjab)

The Shakti app was launched by the Saanjh Punjab Police on (2017), Government of India. It was designed specifically to enhance women safety by providing easy and fast services for women in distress to reach police authorities and trusted contacts. It aims to enhance the safety of women. The App installation users need to register and enter the registration key, providing their name, mobile number and, details of at least three relatives or friends as an emergency number. After completing registration, users can trigger the emergency alert feature by pressing the help button. Key features of the app are one-touch alert to notify the police, and emergency SOS alert, location, police communication, internet access, police integration, emergency contacts. The estimated women population of the state as per the census 2011 is 14 million (1.4cr), the active user of this app is more than 10,000, it covers a 0.07% of the total women population (<https://shakti.en.softonic.com>)

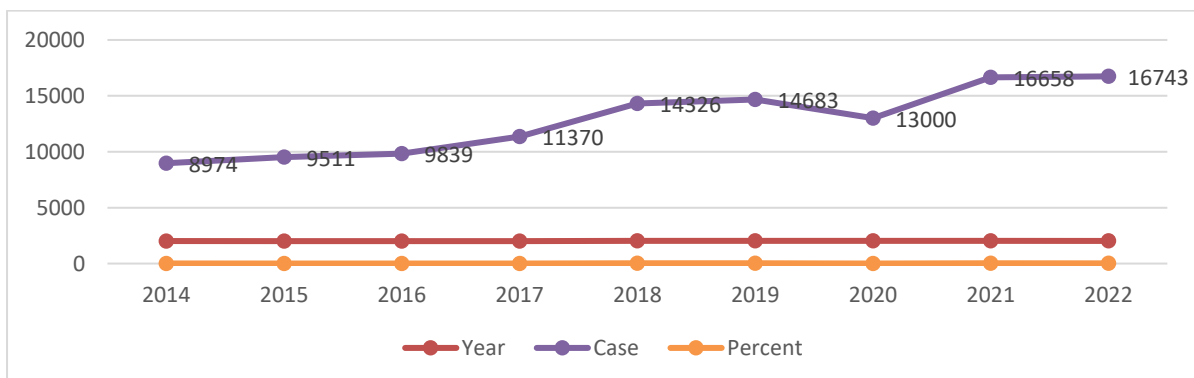
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The Shakti app in the Punjab state is launched 2017, the cases are frequently increased every year up to 2019 and subsequently the following years cases were comedown. The average of the cases of crime against women percentage from 2014-2022 is 5.31%.

Durga Shakti App

The Durga Shakti app was launched by the Haryana police on 2018. Under the direction of the Ministry of Home Affairs (MHA), Government of India. The mobile app was launched at the ‘*ek aur sudhar programme*’ organized at Indradhanush Auditorium, Panchkula. It was designed specifically to enhance women’s safety by providing easy, quick services for women in distress to reach police authorities and trusted contacts. It aims to improve the safety of women’s. Upon installation users need to register by providing their name, mobile number and, details of at least three relative or friends to as an emergency numbers. Once registered, users can activate the emergency alert feature by pressing the help button. Key features of the app are emergency SOS alert, GPS location, voice communication, WhatsApp integration, police communication, emergency contacts, Women’s helpline number (1091). Since its launch the app has seen significant adoption, the internet is essential. The state women’s population is 14 million (1.4 cr) as per the census 2011, the app reaches is 50,000 mobile of the state women, and the coverage is 0.35%. (<https://www.tribuneindia.com>)



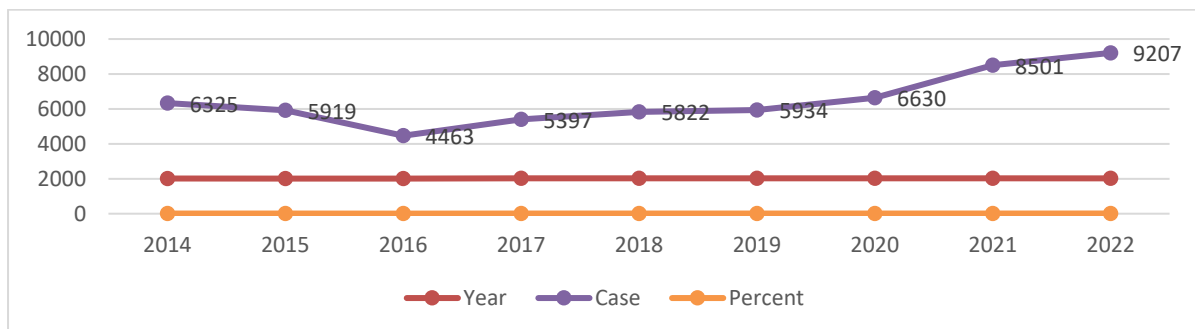
The state’s women safety app is available from 2018 onwards; the App is not give a positive result still up to 2022. The average percentage of cases of crime against women as per NCRB data 2014-2022 is 12.7 percent.

Kavalan / kaaval uthavi App

Kavalan mobile app was developed by the Government of Tamil Nadu as a Save Our Soul (SOS) App, as a part of the mobile control room. This mobile application is developed by Amtex Systems and using this mobile app by people of Tamil Nadu can seek

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the assistance of Tamil Nadu police in cases of urgent situation. The mobile application was originally developed to keep women and elderly people of Tamil Nadu in mind. Crime Against Women like Eve-teasing, Kidnapping, Molestation, Domestic Violence and Sexual Violence. Using the Kavalan SOS alert App, those women in danger can seek the direct support of the police departments, which can help officers act quickly anyone who feels violated, threatened, or in a potentially serious situation can use this app. Regardless of the circumstance, this SOS can assist them in obtaining police assistance as soon as possible. Users of both platforms can contact for assistance in times of need thanks to the apps easy downloads from the Google Play Store for Android users and the Apple Store for iOS users. The procedure of using this app is very easy, People are followed a few steps after the download this app from Google store/apple store, the first step is after the download the app open the app and page is open and registered it enter the name, gender, age, address, and location, and add the emergency contact, mobile number, date of birth, email, other basis details and one third contact is have to add as per the emergency, now the requisition was completed and here is to go. This app is launched in June 2018 and in the 2020 1 million downloaded and used. Even though the app was introduced in June 2018, it wasn't until the 26-year-old veterinary doctor in Hyderabad was killed that it saw a significant increase in downloads. Now the mobile application has crossed more than one million downloads. This app is now released at 2022 with new features. (Tamilselvi & Getrude, 2021). Key features: SOS alert trigger, real-time location tracking, emergency contact list, alerting police control room, master control room integration, women population of the state is 36 million (3.6 cr) as per census 2011, the app is downloaded is 2 million, the coverage 5.5%. (play store)



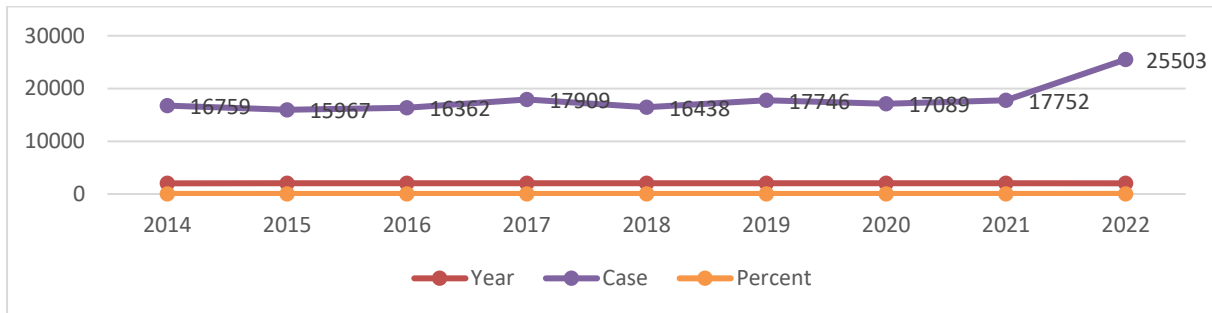
The app was released on 2018 in Tamil Nadu, as per the NCRB data of crime against women in Tamil Nadu State number of cases increased every year. The crime ratio continuously increased 1.25 percent approximately every year.

Disha App

The Disha App is a personal women safety application developed by the Andhra Pradesh police. This app launched by the state police at February 2020. The Disha app is launched after the case of veterinary doctor in Hyderabad (2019). Since its launched app has been download 1, 50, 00,000 users. The police have actively promoted the App, urge women to utilize it for their safety. People can download from Google Play Store at free of cost /iOS App store for iPhone. After the app downloaded users have to register them self and required to fill the little information in the app such as name, age, gender, address, mobile number and emergency contacts. Key features of the app are: SOS activation users can trigger a SOS alert by pressing the button or by shaking their phone five times. This action sends an immediate alert to the police control room, video recording feature is also had in this 10-second video is recorded, GPS tracking, emergency contacts, tracking travel user can contacts while traveling ensuring their safety throughout the journey, nearby safety

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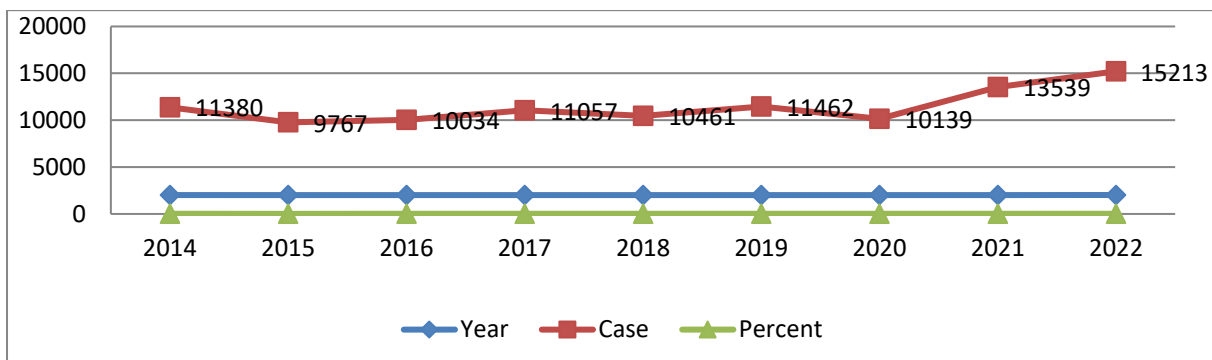
resources, complaint filing and counseling request. In the state women's population is 24.5 million (2.45cr) as per the census 2011, the app is downloaded 1 million and the coverage is 5.5%. (<https://www.thenewsminute.com>)



The app DISHA is launched at February 2020. As per data of NCRB, this app is not making as such impact to prevent crime against women. The average percentage of crime against women is 17.94% on the bases of NCRB data 2014-2022.

Nirbhayam App

This app was developed and launched by the government of Kerala in 2021 as information regarding imminent threat and assistance to women with the police instantaneously. Its aim is empowering the women by providing a panic button feature, the name "nirbhayam" App which means the fearless, recently the (RG kar case 2024) is again raises a big question about the women safety at educational places and working place. The App can be downloaded from the Google Play Store /iOS Play Store (Apple Store) till today, App was downloaded more than 1, 00,000. The key feature of the App is emergency SOS activation by pressing and holding the help button for 5 seconds, the app sends an alert to the nearest police control room, including the user's location and personal details such as name, age, location, email ID, mobile number and emergency contact numbers. Fake call features some versions allow users to generate a fake incoming Call to help escape threatening situations. Multimedia support for evidence collection as such as photography, audio/video recording, this App has a feature of offline mode working and this app can send the SMS and receive a help from the police. Data privacy is very secure by the police no other third party is involved in this so that data is secure. The women's population 17. 4 as per the census 2011 the downloaded is 100,000 and the coverage is 0.57 %. (Play Store). (<https://www.newindianexpress.com>.)



This app was setup on 2021, and the NCRB data state that the cases are not decrease but get increase and this app is not make as such impact to prevent crime against women. The

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average percentage of crime against women is 11.4 percent according the NCRB data of 2014-2022.

The following list of state has women safety apps but not like have that other states which have full pledged apps like SOS feature integrated with any other app.

S.no	State/UT	App name	Functions
1	Assam	Sakhi App, presently it is on trial stage but since March 29, 2018 with help line number 181-sakhi functioning as women safety.	Women safety connected to the Assam police
2	Chhattisgarh	Chhattisgarh Police Citizen App launched in September 14, 2020.	Women can trigger alerts to the police using SOS features
3	Goa	Since early 2000 onwards women helpline 1091 for women safety.	SOS through the Goa police
4	Himachal Pradesh	Shakti Button App launched in January 26, 2018 for protecting and safeguarding women.	SOS alert, offline work
5	Madhya Pradesh	MP e-cop Citizen App functions from January 5, 2017 safeguarding women from victims of crime.	SOS feature
6	Rajasthan	Raj Cop Citizen App launched in March 28, 2020 for women safety.	SOS alert
7	Uttar Pradesh	112 India as Pan-India App by Minister of Home Affairs launched in November 6, 2018 for women safety.	Emergency response app
8	West Bengal	Bandhu App proposed by recently in the Government of West Bengal.	Women elderly safety; piloted in some areas.

These are the following women safety apps shows that differences, features and additional services for women safety apps in India.

S.no	Concerns	Special feature/ unique point	Target state/city	Additional services
1	Limited public info on encryption	Focuses on reducing police response time via mobile distress alerts	Maharashtra Pratisaad app	No evidence recording feature
2	Data retention period unclear	Real-time tracking and instant police dispatch	Tamil nadu Kavalan app	Integrated complaint filing
3	No open privacy policy available publicly	App provides helpline numbers and location tracking	Kerala Nirbhayam app	Awareness programs and safety tips
4	No detailed information about data deletion policy	Dedicated to women's helpline and police team dispatch	Haryana Durga shakti app	No recording features
5	Privacy terms not	Direct panic call to	Punjab	Simplified

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S.no	Concerns	Special feature/ unique point	Target state/city	Additional services
	Data privacy transparent online	police with location	Shakti app	single-button operation
6	No encryption details specified	Focuses more on preventive policing, Team patrols + app support	Telangana She teams	Complaints against eve-teasing
7	Long term data storage policies unclear	SOS alert directly sent to the police control room	Jharkhand Shakti app	Simple emergency focus
8	No end-to-end encryption details provided	SOS for emergencies; basic protection app	Odisha Mo Sathi app	Location sharing with family
9	Slight concerns about third party access	SOS with automatic audio/video recording sent to police	Karnataka Suraksha app	Evidence submission
10	Overall better privacy handling	SOS button time video, photo evidence uploads	Andhra Pradesh Disha app	Auto FIR registration process
11	Good data privacy practices overall	SOS alert + live location + audio recording feature	Delhi Himmat app	Direct connectivity to Delhi police HQ

CONCLUSION

Based on the analysis of the women's safety app in India the researchers conclude that every app exhibits unique strengths; for instance, the Disha app integrates quick police dispatch with FIR registration; Himmat app emphasizes verification and real-time alerts; the Kavalan app provides swift one-touch SOS support; she teams focus on preventive policing through undercover monitoring, however, reviews also highlight certain limitations such as occasional technical glitches, network dependency and delayed responses in remote areas. Overall, user feedback indicates that these apps are valuable tools for immediate help and confidence-building, though their success often depends on effective back-end police coordination and public awareness. Several drawbacks have been identified through users' feedback and expert reviews. Technical issues such as frequent crashes, slow response, and high battery consumption are common complaints. Most apps are heavily dependent on stable internet and GPS connectivity, limiting their effectiveness in rural or low-network areas, delayed police responses after sending alerts also diminish trust in these systems. Additionally, limited public awareness about the apps, concerns regarding data privacy, language barriers, and poor integration with police infrastructure further reduce their overall impact. Many users install these apps but fail to actively maintain or update them frequently, leading to a drop in real-time usage during emergencies, collectively; these challenges indicate that while the apps are valuable, their success heavily depends on technological robustness, continuous user engagement and strong administrative support.

Further, the researchers to find the effectiveness of the women's safety apps compared with Crime in India data from 2014 to 2022 on crime against women. The outcome of the analysis reveals that its effectiveness varies from state to state of the women's safety applications. The overall impact of most apps has been limited, a few have shown notable

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success. The Himmat app from Delhi stands out well, this app consistently functioned for a decline in crime rates every year and also its effective integration and usage of this app presently covers is 6% of the total women population of Delhi City. Similarly, the Durga Shakti app from Haryana has shown commendable results; with a noticeable reduction in reported cases annually and the state women's safety app has downloaded 50,000 women for emergency contact of police also the police team dispatched the reported complaints quickly. Conversely, some applications such as Shakti (Jharkhand) shown a about 50,000 downloaded and the app has a simple and user-friendly interface, Kavalan (Tamil Nadu) shows downloads of more than 2 million and real-time tracking and have a feature of e-complain. Pratisaad (Maharashtra) police is give a quick response to mobile alert messages, download is more than 1,00,000 and Mo Saathi (Odisha) more than 50,000 downloaded presently and feature of location sharing with family. Adequate significant improvements; in some cases, crime rates have even continued to rise in the state but the apps are splendidly performed in the urban places. These apps highlight that the need for better implementation and user engagement strategies in respective regions. Newer apps like Nirbhayam (kerala) more than a 1 lakh download since launched to at present and Disha (Andhra Pradesh) shows a more than 1 million women have downloaded, both apps launched in 2020 and 2021 respectively, shows the early promise made by the former Chief Minister of the both states but requires more time and data to assess their long-term impact on the apps. The She Teams initiative, developed by Telangana Police offers a more holistic approach by integrating multiple services under one framework, contributing to safer and more stress-free travel experiences for women. Overall, data suggests that in states where apps are actively used and supported such as Delhi with the Himmat app-the crime rate has seen a measurable decline, indicating the importance of strong implementation, user trust and consistent usage for these digital tools to be effective.

Suggestions

The overall analysis of women safety apps in India the researchers recommended the following suggestions.

- Women's safety apps should be pre-installed while buying two wheelers and four wheelers with in-build Bluetooth or other features, enabling women with the use of AI assistants that help at the emergency situation with quick reports of stalking or suspicious activity-especially when travelling alone or at night.
- Establish a woman-led "help desk" where female officers assist and record women's concerns or complaints. Additionally, night patrols should be conducted in areas with significant female presence; allowing police to engage with local women's identify those areas where such cases are happened commonly, crimes like stalking, following, harassment and reinforce a sense of safety.
- The railway police model "R-Mitra"- where officers respond to women's complaints by being present at the next stop /station can be adapted for urban /rural settings and timely GPS tracking of bus terminals and marketplaces to enhance timely intervention and safety and as the same app should implement for the women passengers of buses.
- To enhance the effectiveness of women's safety app awareness program at school, police should collaborating conduct hands-on sessions to ensure app installation by girl students and establish a joint support team to encourage continues usage and engagement.
- Police should install CCTV cameras and real-time tracking in public and private transportation such as bus, cab(the service company should install CCTV cameras

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for safety) and in areas frequently visited by women especially during at night including the market place, malls, auto stands, bus stations, parking lots, seduced spots ensuring 24/7 surveillance in both urban and outskirts center.

- State women's safety apps should be integrated across states to ensure seamless support and protection of women during interstate travel, allowing them to stay connected to local safety services upon arrival and get connected even at the airports.
- A "safe" green button is added to women's safety apps allowing users to report a feedback about the women apps uses and its effectiveness to local police for marinating police public relationships.
- Should create a separate police response team be established to ensure timely and effective action on digital complaints. This specialized unit should be trained to monitor e-FIR and e-complaints round the clock, ensuring instant acknowledgment 24/7 and swift case registration.
- Data privacy is a critical concern in the implementation of women's safety applications. It is imperative that state police authorities must establish dedicated data security teams to ensure the protection of user information, building public trust requires clear communication about privacy measures, robust data encryption protocols, strict access control.

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Conflict of Interest

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