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Research Article

A Discourse On Cyber Hygiene For Children In Kerala

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Abstract

The eruption of Cybercrimes in the recent past posed serious threats and challenges to government and other stakeholders in a significant way. Children are usually vulnerable to cybercrimes. Cybercrimes against children are increasing at an alarming level day by day, especially amidst pandemic Covid 19. The situation has compelled the people to work from home and the chances of cybercrimes have become an inevitable factor. The cybercrimes such as online grooming, child pornography, unwanted solicitation, harassment and bullying and unwanted exposure to sexually explicit material, etc. are happening in cyberspace, despite numerous laws to regulate such menace. It is important to note here that, the government, police departments and intelligence units have already started to take necessary initiatives to guard the children from the menace of cybercrimes. This study presents various cybercrimes that occurred against children in Kerala, preventive actions taken by the Kerala government to guard the rights of children in cyberspace and suggest cyber hygiene as a remedial measure to combat cybercrimes against children. Further, it tries to suggest some initiatives for making awareness to parents, guardian and children regarding the menace of cybercrimes.

To prevent cybercrimes against children, the Kerala government has adopted proactive measures such as various awareness programmes, online portals, operations etc. The various preventive measures and awareness programmes should be updated accordingly to have child-friendly cyberspace of cyber hygiene for women and children.

Keywords: Cyber Hygiene, Cybercrimes and Cyber Security

Introduction

Cyberspace or cyber world or virtual world is an unavoidable reality of contemporary society, as it caters in to the needs of the people in a real time. Citizens relations with cyber space is boosted with the appearance of pandemic Covid 19, as most of the offline business are shifted to online such as education and online classes, working from home for companies, shopping of necessary items, telemedicine etc. According to the data, the effect of covid 19 results in a huge rise in the usage of cyberspace and still it is going on(De' et al., 2020). This huge rise in the usage of cyberspace prompted the alarming growth of cybercrimes in the current society. The children, digital illiteracy people, geriatric populations etc. are become vulnerable community to cybercrimes.

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Children are the main chunk that is active in cyberspace at the time of pandemic as the education facility is limited to online. This case has unleashed variety of cybercrimes against women and children during the pandemic period. The amplified use of the cyberspace explores a sensitive menace of cyber threats for children (*Children and Cybercrime in the Time of Covid-19*, 2020). Every government and stakeholder are working to prevent different cybercrimes, especially against children in different ways. Kerala, a state in India is taking several preventive measures to help the kids to be safe online and to ensure cyber hygiene for children.

Cyber Hygiene

"Cyber hygiene is a reference to the practices and steps that users of computers and other devices take to maintain system health and improve online security. These practices are often part of a routine to ensure the safety of identity and other details that could be stolen or corrupted" (Brook, 2020). "Cyber hygiene is a fundamental principle relating to information security and, as the analogy with personal hygiene shows, is the equivalent of establishing simple routine measures to minimise the risks from cyber threats" (*Review of Cyber Hygiene Practices*, 2017). These definitions of cyber hygiene clearly explain the concept and the need for it. Cyber hygiene should be daily routines to keep cyberspace clean and safe. At present, it is equally as personal hygiene. Every state is trying to have successful cyber hygiene initiatives to keep its cyberspace safe. At present as a vulnerable section, children are not much safe in cyberspace. This prompts governments to ensure cyber hygiene to help children in cyberspace.

Objectives

- 1. To explore various cybercrimes that occurs against children in Kerala
- 2. To unearth the preventive measures taken by the Kerala government to protect children's rights in cyberspace
- 3. To present cyber hygiene as a remedial measure to combat cybercrimes against children.
- 4. To suggest some initiatives for making awareness to parents, guardian, children and other stakeholders about the menace of cybercrimes.

Methodology

This study adopts a document and analytical method. The major portion of the data was collected from articles and reports published in research journals and newspapers. Besides, the government reports and study reports by the cybersecurity agencies will form a major chunk of data for the current study.

Cyber Hygiene for a Child-Friendly Cyber Space

The European Union's Agency for Network and Information Security (ENISA) presents cyber hygiene as equal to personal hygiene. As in the case of personal hygiene, one should follow daily habits, good behaviours, and occasional check-ups in cyberspace to keep cyber hygiene. It helps to prevent various cybercrimes such as cyber-attacks, phishing, malware, ransomware, loss of personal data, etc. Everyone in cyberspace must understand the necessity for cyber hygiene and basic cyber hygiene practices to prevent various cyber threats. But in the case of children, they are not well alert of the various cyber threats in online and the need for cyber hygiene. The parents, teachers and state have to ensure safe cyberspace for children. As the susceptible, today the cybercriminals are targeting children and exposing them online. Various cybercrimes such as online grooming, child pornography, unwanted solicitation, online harassment and cyberbullying

and unsolicited exposure to sexually explicit material, etc. are growing every day. Proper prevention, awareness and sensitizing the children's and their parents can help the kids to have a safe atmosphere in cyberspace.

Cybercrimes against Children in Kerala

Cyberspace offers various benefits for children such as education, entertainments, communication, etc. but the increasing access to it leads them to different threats such as child pornography, online harassment, abuse, exploitation etc. The various cybercrimes against children in Kerala are following:

1. Online Child Pornography

Child pornography uses the minors for sexual incentive. In child pornography, there is direct and indirect exploitation of children. As everything is based on cyberspace the child pornography too became online and the culprits exploit the videos and images of children for sexual incentive. Online Child pornography uses number of media and social media like *Telegram*, *Facebook*, *WhatsApp* etc. to share and keep the porn material.

Child pornography is a punishable offence in India. According to section 67B (d) of the Information Technology Act, 2000 of India, whoever facilitates abusing children online shall be punished. The menace of online child pornography is alarmingly increasing in Kerala. In the last three years, Kerala holds the first position in India concerning child pornography cases (Joy, 2021). Collecting and sending porn contents of the minors in online and social media have increased during the pandemic period. Even though there are various preventive measures, in last two years, more than 400 people were arrested in Kerala in relation to child pornography. As the experts say the reported or arrested cases are only the tip of the iceberg (Babu, 2021). By using social media platforms like *Telegram*, *WhatsApp etc.* many people are sharing the child porn contents and it is amplified in Kerala at the period of pandemic lockdown (Anand, 2020).

According to the investigation of the experts in Kerala Police, at present, the cyber criminals are using the latest techniques and media to collect and share child porn material. They are using darknet, cloud applications, and international based social media platforms (*Official Website of Kerala Police - CCSE*, 2020). According to the officials, most of the culprits are using the darknet to upload child porn contents and sharing them through WhatsApp and Telegram groups. There are even 35 active groups under one admin with 38000 active members. This data presents the real situation in Kerala (*In Kerala, 41 Held for Promoting Child Pornography*, 2020). Based on the various incidents it is very clear that in60% of the cases the offenders are either family members or relatives and in 50% of cases, pornographic materials were filmed or shot without the intention of the abused child (Babu, 2021) & (Antony, 2019).

2. Online Grooming

Online grooming is the emotional and misleading guidance in cyber space. In most online grooming cases the minors are the victims. By using friendly relation, the offenders exploit the children and blackmailing them. The exploitation usually leads to sexual abuse of girls and women and in most of the cases it led to threatening the victims through online platforms and demand money also. It happens from unknown online friends and relatives. The offenders start friendly contacts with the children and get their trust and finally ask them something sexual. After having access to their self-videos and images they are asking for more and even physical abuse.

In Kerala online grooming and sexual abuse increased during the pandemic (Philip, 2021) & (Girl Died in Hotel Room, 2020). Because of lockdown children are engaged with online classes, chatting with friends, sometimes unknown friends also, and get communicated with others. In many cases, the offenders are relatives and classmates. Children are not able to understand the

cruel intention of the offenders and become the victims. Sometimes online grooming is happening against children because of breakup in a relationship with family members and other gender. After breakups, the counterpart blackmails the person by posting photographs and videos of moments in relationships. By using it they make revenge pornography or threats on them (*Official Website of Kerala Police - Bodhini- Child Safety*, 2020).

3. Cyber Bullying

Cyber bullying is harassment and character assassination of women and children through cyberspace. The offenders use abusive messages, hurtful pictures or videos, nasty online gossip, humiliation, fake accounts to harass someone. Cyber bullying by online friends results in severe depression, anxiety and even leads to the suicidal tendency among children. In Kerala, many cyber bullying cases are happening against minor film actresses (Arivalan, 2020) & (Saradha, 2021) andother children who are famous after their parents. Sometimes cyber bullying against children is happening based on the political or religious background of the parents ('Case against NRI for Abusive Comment on Social Media', 2021). By social media, bullies harass the children with morphed images and bad languages.

After having more incidents of cyberbullying, the Kerala government introduced an ordinance Kerala Police Act to prevent cyberbullying, but due to stiff opposition from various stakeholders of the society the ordinance was withdrawn (Swamy, 2020). The major allegations levelled against the ordinance was, it would pose serious of threats and will certainly undermine citizens right to expression their opinion in public sphere.

4. Online Gaming

Online games aim to have fun and leisure. But sometimes these lead to tragic results and crimes. Most of the online games are designed to attract the children. Children start games for fun and later become addicted to them. Many games cause for having privacy problems, financial loss to the family, data theft, cyberbullying, malware attacks etc. The team games with violence lead children to threaten, groom or bully others and being threatened, groomed or bullied by others. Some games like 'Blue Whale' lead children to do many risky and dangerous challenges and finally leads to suicide. In Kerala, some boys committed suicide after playing the dangerous game, Blue Whale after having different challenges (Mary Koshy, 2017). Some others lost money and they committed suicide after playing online rummy games (Online Rummy, 2021). After having many reports and complaints from the various states including Kerala, the central government banned the 'Blue Whale' game in India ('Blue Whale Challenge', 2020).

Preventive Actions in Kerala

1. Cyber Dome

Cyber Dome is the initiative of the Kerala police. It was formed as a center for safe cyberspace and innovations for Kerala police in 2014. As per the official website of Kerala government, "Cyber dome is a Centre of Excellence for Kerala Police, to meet the long-term security challenges in the digital arena of the modern world, by bridging the gap between the latest changes and innovations in the cyber space and the skill set development of Kerala Police, in combating the emerging cyber threats. It is envisaged as a collaboration Centre for both the public and private fraternity to converge and share information, as well as resources, that will escalate the safety of our cyber space." (*Kerala Police Cyber Dome*, 2021). It is the joint venture among the government sectors and agencies, NGOs cyber experts, ethical hackers, private initiatives and other law enforcement agencies in India. It aims public and private coordination to provide safe and secure cyberspace to every citizen. It is linked with various international and national cyber security agencies, stakeholders and law enforcement agencies and fights against borderless cyber

threats. It coordinates different cyber security events and initiatives in the states. Besides, it provides research on new methods to approach cybercrimes and increasing the efficiency of the police department by using information technology. By having public-private initiatives it helps the police department to ensure safe and secure cyberspace in Kerala. Further, it assists the police department in various events such as Operation P-Hunt, cyber forensic, tracking system etc. (Official Website of Kerala Police - Cyber Dome, 2020). By the official page of the Cyber Dome, one can report online child abuse through Facebook, WhatsApp and Email.

2. Counter Child Sexual Exploitation (CCSE) Unit

CCSE is a wing of Kerala Police, with special emphasis on preventing online crimes against children. It coordinates and centralizes online child abuse investigation in Kerala. It gets support from Interpol and International Centre for Missing and Exploited Children (ICMEC). It deals with preventing online child exploitation and child pornography. By using the special software from Interpol, CCSE can identify the IP address of the cyber culprits and take necessary actions against them. CCSE is doing some other functions such as Cyber Intelligence, Cyber Security, Incidence Response, Cyber Safety, cyber patrolling, Darknet/VPN monitoring to help the entire law enforcement. Further, it conducts various cyber programs for Students Police Cadets, National service Scheme Volunteers, students, parents, teachers, etc. (Official Website of Kerala Police - CCSE, 2020).

3. Bodhini

Bodhini is an NGO with government support that works on online safety, child safety and healing, mainly in the space of sexual violence. It is a movement against sexual violence and cyber abuse. It acts as a helpline service where the citizen can access help and guidance and provides a platform for psychological, medical and personal care and rehabilitation of victims, preventive training for school students. It provides cyber security tips, cybercrime prevention tips, do's and don'ts for cybercrime victims. It gives awareness to the toxic relationship, revenge pornography, online threatening, emotional humiliation, etc. It helps the children with tips to prevent online blackmail and asks them to talk and complain about the online threats. Further, it gives guidance to parents, teachers and friends of the victims to face the situation and to support the victims. It publishes and presents different short videos to give awareness to the public regarding child safety especially in cyberspace (Official Website of Kerala Police - Bodhini- Child Safety, 2020) & ('Online Cyber Safety Programs | Helpdesk for Cyber Crime in Kerala', 2021).

4. Operation P-Hunt

Operation P-Hunt is the raid conducted by Kerala Police special team to prevent online child pornography. Nearly 525 cases have been registered and over 428 accused arrested so far. As per the reports, child pornography is increasing in cyberspace especially at the pandemic time. Most of the child porn materials are uploading by using the darknet and shared by groups in WhatsApp and Telegram. To counter the situation Kerala Police conducts a special action, named Operation P-Hunt. The Operation P-Hunt is done by having the help of Interpol. By this operation, police identify the persons who are downloading or uploading Child Sexual Abuse Material (CSAM). The IP addresses of the culprits are collected by the specialized software of Interpol. This operation helped the police force to identify the persons and arrest them. Further, the operation could seize various devices and CSAM as evidence. According to the officials, many victims are aged six or above and they are both girls and boys and most of the culprits are relatives of these minor victims (Aiyappa, 2020).

5. Kid-Glove

Kid-Glove was launched in 2015 as a cyber awareness and e-certificate project by Kerala police along with ISRA (Information Security Research Association). The vision of kid glove is very clear from the official website of kid glove. "Kid-Glove has taken a visionary initiative to curb and enervate the notoriously spreading cyber threats to children and citizens of our nation. Kid-Glove is carrying out extensive awareness, training and education campaigns, so that the educational institutions and public are made aware of the dangers of the internet, and how they should be careful and avoid falling into cyber traps." (*Kid Glove. in – Protecting Children in Cyberspace*, 2020). It works to generate awareness among teachers, parents and children about cybercrimes. It provides cyber lessons for students, a tool kit for teachers, advice for parents to help children to have safe online browsing.

It gives various safety tips on online safety especially at the time of the Covid-19 pandemic. Further, it conducts online courses on different topics such as cyber law, information system, online piracy etc. it encourages students to have a career in cyber security by providing research and publication facility. It provides a learning platform for schools to educate students on cyber security and to ensure cyber literacy (*Kid Glove. in – Protecting Children in Cyberspace*, 2020).

6. Safe in C' Space

Safe in C' Space is the handbook published by Kerala Police Cyber Dome to give awareness on cybercrimes and tips to be safe in cyberspace. It provides online rules and tips to kids and parents to have online safety. According to the Police Head of the Kerala state, this is a handbook "on the do's and don'ts on cyber security for all sections of the society for handling the current cyber threats and challenges". In eight different chapters, it explores in detail various cybercrimes such as financial frauds, online job frauds, social media crimes, etc., various tips and rules to keep in cyberspace and various crime reporting options (Safe in C' Space: An Awareness Handbook, 2020).

7. cOcOn

cOcOn is an initiative of Kerala Police in collaboration with the Information Security Research Organization (ISRA) which started in 2008. It is the annual International Cyber Security Conference conducted as part of the International Information Security Day and every year it takes different themes such as tackling cyber terror, ethical hacking, free tools for cyber investigation, etc. for discussion. Every year experts from various parts of the world address the conference regarding the special theme and discuss further actions and coordination. It aims for innovations in cyber security, prevention, detection of cybercrimes, ethical hacking, etc (Official Website of Kerala Police - COcOn, 2020).

8. Pol-App

Pol-App is the citizen-centric mobile application developed by Kerala police. It provides easy access to the service delivery system of the police department. It helps the citizens especially women and children to register and report various complaints, spam, cybercrimes etc. easily. Further, it gives immediate tips to be safe in cyberspace (*Official Website of Kerala Police - Pol-App*, 2020).

Suggestions to Ensure Child-Friendly Cyber Space

As children are very vulnerable in cyberspace, it is the responsibility of all to ensure safe cyberspace to them. Cyber hygiene is the best way to create safe cyberspace. In Kerala, the government has been providing defensive and offensive initiatives to ensure cyber hygiene. But it failed to reap the expected results due to variety of reasons. It is significant to point here, the awareness about Cyber Hygiene is very minimal in the state, despite the fact that Kerala has a record of literacy rate. Most of the programmes launched by the Kerala Police, NGOs and civil

society organisations failed to create a healthy cyberspace for women and children. The following are some suggestions to ensure child-friendly cyberspace:

- 1. School and college curriculum should design such a way to teach students about safe internet or cyber hygiene.
- 2. Ensure that various awareness programmes should reach children, parents, teachers and in turn they should adopt those measures while surfing in internet.
- 3. People should be taught about advantages of using original version of software and antivirus, regular updating of software and conducting cyber security audit at the colleges and home are need of the hour.
- 4. Need to update the existing cyber security rules and regulation, as the present rules have many loopholes which allowed the culprits to escape.
- 5. Ensure speedy and proper trial to the culprits against children.
- 6. International coordination in investigation and research must be promoted as cyberspace is boundaryless.
- 7. Government should ensure that value education related to cyber hygiene, gender equality in cyberspace, cyber morality etc. are taught at the school and colleges.
- 8. Proper regulatory mechanism is inevitable to control social media from spreading of fake, unwanted, sexually coloured messages.
- 9. Ensure proper counselling and guidance to children especially the cyberspace victims and they must be encouraged to lodged complaint with police when they encountered any online harassment.
- 10. Parents should have control over children while they are engaged with online chatting and more important regular check-ups must be done with the devices, so that they can delete unwanted downloaded mobile Apps and software from their devices.

Conclusion

Cyber hygiene to ensure cybersecurity to children is the need of the hour. Children are prone to cyberspace related abuse and rights violations. Children are being targeted by the culprits as they are not adequately protected in cyberspace and they had very limited knowledge on cyber threats and safeguards. With curiosity and limited knowledge, they use cyberspace, started to share personal information on the social media platform, being threatened, molested and finally they get into trouble also. Sometimes, the parents too have limited knowledge regarding cybersecurity and this makes worse the situation. In Kerala, government and other stakeholders take initiatives to counter the menace of cybercrimes and tried their level best to ensure Zero tolerance towards cybercrimes against children. This has been evident from the various international awards such as INTERPOL Special Award for Outstanding Leadership in Protecting Children, Digital Transformation Award 2019 - Best Cyber Security initiative, etc awarded to the government of Kerala (Kerala Police Cyber Dome, 2021).

The various initiatives by the Kerala government enabled the citizen to register cybercrimes properly and helped the law enforcement agency to track the victims and punished as per the existing laws. Because of the pro-active measures and initiatives of the state government, a good number of cybercrimes are registered with cybercrime police and the culprits are punished. Besides, various initiatives especially Operation P-Hunt and special training helped Kerala police to reveal the various cybercrimes against children. 926 raids, 769 registered cases and 852 seized devices clearly show the success of P-Hunt (Kerala Records Highest Cybercrime Cases, 2021) and it is going on effectively. By establishing a Cyber Dome, Kerala used the services of ethical hackers and technical experts from the private sector in ensuring cybersecurity. Further, by having

various updates, Kerala police can give warning and tips to all especially to children regarding the threats in cyberspace. Recently police give a warning to children and parents by its Facebook page regarding the online threats (Kerala Police, 2021). It is a significant note here, so far Kerala cyber police have conducted more than 500 awareness campaigns in different schools (Special Wings: Cyber Cell, n.d.).

But it is an unblemished truth that cybercrimes against children are unleashed in the state (Kerala Records Highest Cybercrime Cases, 2021). The main reason behind this menace is, compared with cyber cell/police the culprits are using the most sophisticated and updated technology, in most cases the anti-social elements are untraceable and criminals are unable to produce before the court also. The government and police must override cybercriminals in using advanced technology and ensure cybersecurity. Along with the initiatives from the government and police, children and parents should be sensitised and they must think about cyber hygiene or safe internet surfing also. Thus, coordination among all the sections alone can ensure child-friendly cyberspace.

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