



Review Article

Conundrum of adolescent sexuality in the digital era in contemporary India

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Abstract

Adolescent sexuality is a stage of human development when adolescents experience, express and explore sexual feelings. This is influenced by hormonal, physiological, genetic, socio-cultural and psychosexual factors. Rapid digitalization and emerging globalization have a huge impact on the changing dynamics of adolescent sexuality. Teen dating violence, cybercrime, increased sexually transmitted infections, unwanted pregnancies and other medical and mental health issues are just a few of the many negative consequences faced by a vulnerable adolescent. The possible solutions could be incorporating sex education into the school curriculum, promoting safe-sex practices, awareness about nuances of cyber crimes, and so on. This article reviews the possible correlates of adolescent sexuality, the impact of digitalization, potential consequences, and a way forward, especially in developing countries, like India.

Key words:

Adolescence, Sexuality, Digitalisation

Introduction

Sexuality plays a pivotal role in life and includes gender, sex, sexual orientation, intimacy, reproduction, and pleasure (WHO, 2006). Development of sexuality starts as early as infancy, childhood, adolescence, and adulthood and continues till death. However, we frequently reveal a deep discomfort when it comes to giving importance to the sexual needs of adolescents, mainly because this

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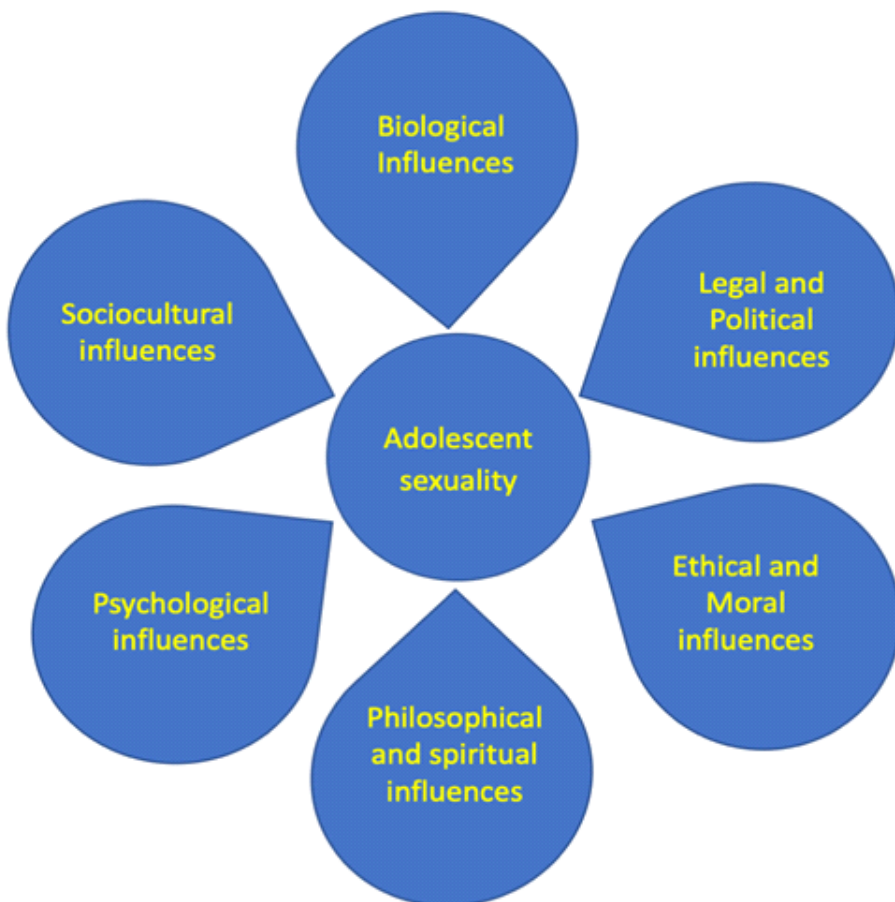
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period is a transition from childhood (where sexual expression is not allowed) to adulthood (where sexual expression is fully sanctioned). We are aware that the critical developmental tasks in adolescence, i.e., the 10-19 years age group, are to become autonomous from parents and form an adult identity of self as per Erikson's stages of psychosocial development. Typically, this is when individuals start exploring their sexuality and engage in new romantic relationships (Tuval-Mashiach et al. 2008). In a country like India, where the culture is somewhat "reserved", and

sexuality is discussed so little, it remains a puzzle for adolescent, which influences their perception of sexuality. Besides the socio-cultural influences, sexuality has been increasingly studied from biological, legal, and psychological perspectives. Given the dynamic and complex interplay of different factors in shaping adolescent sexual behaviour, we aim to review these aspects of adolescent sexuality in the digital era, the pitfalls, and the consequences, to ensure awareness and develop potential interventions in the future, particularly in developing countries.

Figure 1. Influencers of adolescent sexuality



Changing trend of sexuality amongst adolescents

About 22% of India's population are adolescents (Srivastava, 2016). Typically, growing up in a different environment with an admixture of western culture, the impact of media and digitalization, understanding the conundrum of adolescent sexuality is of paramount significance. Expanding number of sexually active adolescents has comprehensively led to various physical and mental health problems. A study conducted on adolescent high-risk sexual behavior in India (National Family Health Survey) NFHS-3 (2005-06) and NFHS-4 (2015-16) found that sexual activity was initiated earlier among adolescent boys and young men at 16 and 19 years, respectively over the last decade. Findings also depict that the percentage of adolescents having sexual partners, involvement with commercial sex workers, and live-in relationships have increased considerably within the last decade (Sharma and Vishwakarma, 2020). Exposure to mass media has influenced this change to a significant extent, which keeps teenagers constantly connected. Sexuality as a construct is not about biological, psychological, and social factors alone but also various other factors such as political, legal, philosophical, spiritual, ethical and moral values. So, it is essential to understand the evolving adolescent sexuality, which can have significant clinical, educational, legal, and socio-cultural implications.

The sexual trajectory from adolescence to adulthood

Sexuality is often viewed as a part of life requiring maturity to experience and express, which is believed to be possible only as adults. As a result, adolescent sexuality is seen as hazardous and experimental. Researchers have also reflected this in their research questions that specialize in pregnancy, sexually

transmitted infections (STI) risk, condom use etc. The risk focus of this research is understandable, given the high prevalence of STIs and unintended pregnancy among adolescents and young people (Finer and Henshaw, 2006). On the other hand, there has been a growing argument that adolescent sexuality should not be automatically linked with illness and its dangerous effects (Russell, 2005). Sexuality as a larger concept is undermined in the current times and is being given a reductionist view to sex and intercourse; hence it is considered only an amateur activity. The larger perspective of sexuality involving intimacy, communication, societal role, and philosophical and spiritual contexts are missing. Indeed the developmental perspective and overall sexuality is a normative process, but its "normativity" needs to be defined in the correct context.

Studies utilizing a sexual risk framework have aided in identifying several underlying brains correlates linked to high-risk sexual decisions. Still, sadly, these studies have not added much to the understanding of normal sexual development. During puberty, attention and sensitivity towards social and emotional information-processing streams are reoriented, especially pertaining to sexual behaviours (Dahl, 2016). Adolescent neurodevelopmental models have shown significant sex-specific brain reorganisation during puberty (Giedd and Denker, 2015). Adolescent brains are sensitised to reward learning, notwithstanding sex differences in these trajectories (Galván, 2013). Romance and sex are goal-oriented motives because they activate dopamine-rich reward processing and motivational systems (Fisher et al. 2010).

The hormones that aid in forming secondary sex characteristics also significantly influence the restructuring of the brain circuitry (Sisk, 2016). Other hormones and neurotransmitters, such as oxytocin, vasopressin, dopamine, serotonin, and cortisol, are also activated or

augmented during puberty in addition to gonadal hormones, which have a role in the perception of romantic love (de Boer et al., 2012). Therefore, it should be considered normal for adolescents to explore their cognitions and feelings connected to romantic and sexual relationships.

Psychosexual development

Various theories exist regarding the development of personality, including sexuality in humans. Freud's psychoanalytic view gives an idea to healthcare professionals about the development of adolescent sexuality. The psychoanalytic theory proposes 5 stages of psychosexual development, namely oral, anal, phallic, latency, and genital stage. During each stage, the libidinal energy is concentrated in a body area. Individuals enter the 'genital phase' around puberty. During this period, the libidinal energy is focused on the genitalia, and interest turns towards romantic and sexual relationships (Kar et al. 2015).

Based on social learning theory, children imitate their parent's and peer's behavior (Huesmann, 2018). Children and young adults learn much about sexuality from their parents, including expectations of the families, values, and role modelling of sexual health strategies (Yarber and Sayad, 2019). This learning occurs mainly not because of their parent's teaching but because the children observe their parent's behavior (Flores and Barroso, 2017).

Socio-cultural influences

India is one of the oldest cultures to study sexuality. It is where the different attitudes and practices regarding sex first appeared in historical texts such as 'The Kamasutra', the famous Ajanta paintings, and sculptures of Khajuraho. Cross-gender behaviors and polygamous relationships are also described in epics like Ramayana and Mahabharata. This might mean that sexual education was done through art and literature in ancient India.

Ironically, in this very country, there are few provisions for sex education at home or school and specified health services addressing adolescent sexual problems. Due to social stigma, adolescent girls are not educated about menstruation. A study found 71% of girls in India have no knowledge of menstruation before menarche (Menstrual Health in India, Landscape analysis, 2016). Culturally, menstruation-related myths in India vary from restricting menstruating women inside the kitchen, offering prayers, touching holy books, dietary restrictions, and so on (Garg and Anand, 2015). Although the Indian education system is slowly catching up, there is still a dearth of information on puberty and sex-related topics, due to which the curious minds of adolescents turn to other informal sources such as movies, social media, the Internet, pornography etc. India, still considered a conservative society has several limitations in the expression and experience of sexuality before marriage.

Gender differences

Despite the change in perceptions of gender roles over time, the hypocritical societal standard gives men fewer limitations in exploring their sexuality during adolescence. Males are influenced to engage in sexual behavior early by their peers, while women are discouraged from doing so by their peers (Drury et al. 2013). So is the upbringing in developing countries that boys often report pride after having sex, while females report shame. The sexual hypocrisy in the perception of virginity is also to be noted, with women considering their virginity as a present for their spouse and choosing hymenoplasty to keep up with the expectations of their partners after marriage (Ahmadi, 2016).

Sexual minority groups

Over the past few decades, LGBTQI (Lesbian, gay, bisexual, transgender, queer, intersex) movements have begun focusing on taboos,

stigma, discrimination, and human rights violations, thus forcing increased research on this area. Sex among homosexual men was a punishable offense as per Section 377 Indian Penal Code until very recent decriminalization (Kapoor & Pathare, 2019). Although this paradigm shift is promising, it does not guarantee a path free from stigma, prejudice, and psychological hardships. Needless to say, younger individuals in this community experience fear of revelation, embarrassment, regret, and acceptance of self and exhibit higher levels of depression, anxiety, and substance use problems (McDonald, 2018).

Role of parents

Parents play the most important role on their adolescents' decisions about sex, but they are often underestimated due to apprehension and anxiety. Parents usually avoid discussing emotions, pleasure, and values, fearing that portraying sex in a positive light could encourage experimentation (Ashcraft and Murray, 2017).

The digital era and adolescent sexuality

Technology profoundly impacts how the young generation matures, their understanding and knowledge of intimacy, and their developing sexuality. These technologies give instantaneous gratification, are continuously available, are usually inexpensive, and sometimes feel deceptively confidential.

Mass media

Studies reveal that greater exposure to sexual content in the media may lead to faster sexual development and earlier first sexual experiences (Chandra et al. 2008; Collins et al. 2004). It is also found that media is one of the most important sources of sexual information among adolescents. Due to these findings, media is sometimes referred to as a 'super peer', which promotes adolescent sex as normative and risk-free (Strasburger, 2005).

Among the various media, magazines have been popular during the past decades. A study that analyzed teenage magazines' content reported that the main content is telling girls that it is important to become sexually attractive enough to get a boyfriend (Brown et al. 2002). Although the recognition of these magazines has reduced after the advent of internet use, the content remains identical, but nowadays often accessed through the Internet (Carter, 2012). Studies have also shown that adolescents with media exposure are more likely to suffer from body dissatisfaction and body image disorders (Jiotsa et al., 2021).

Movies are considered to be one of the most influential mass media. A study examining the duration and content of sexual content from 684 top-grossing Hollywood movies found that over 80% of films had sexual content (Nalkur et al., 2010). Greater exposure to movies with sexual content was also linked with earlier commencement of sexual activity and a higher number of casual partners (O'Hara et al., 2012). Longitudinal studies on adolescents showed that exposure to higher sexual content on television predicts an earlier sexual debut among adolescents (Collins et al., 2004; Martino et al., 2005).

Thus, while media exposure to sexual themes may negatively affect the curious minds of adolescents when used correctly, it can also positively influence sexual health-related attitudes, beliefs, and behaviours. Mass media also gives knowledge about contraception, birth control, STIs, and the treatment of sexual disorders.

Internet

The internet provides a safe avenue for exploring and expanding knowledge regarding sexuality and safe sex practices. In addition, it provides the growing adolescent with a means of experimenting with stimulating sexual aggression without crossing into real-life

behavior. There may be a blurring of this boundary for some vulnerable individuals, and certain types of pornography that are violent or hard-core may promote aggression and lead to sexual addictions and paraphilias (Kingston et al., 2008). In movies, the wilful suspension of disbelief makes room for fantasized behaviours that would not be allowed in real life. Exposure to distorted sexual knowledge on the internet can lead to certain maladaptive behaviours blurring the boundaries between healthy and pathological sexuality (Klein et al. 2014). Further, sexually explicit internet materials consumption has been postulated to sexual dissatisfaction in later life (Kuan et al. 2022).

Online chatrooms

Chat rooms attract adolescents because they provide the opportunity for disinhibited behavior while maintaining anonymity and discussing topics stigmatized by society unrestrained within a group. Following the recent 'Bois locker room' incident on a social media platform in India, these chat room behaviours have become a source of concern (Sharma et al., 2021). Online disinhibition and internet anonymity do not determine the user's actions in cyberspace alone, but rather their underlying needs, temperament, and personality as well.

Dating Apps

Dating sites such as MyLOL, bebo.com, Tinder, and Bumble, comprise an increasingly popular way for youth to meet and connect in western and Indian settings. Tinder, established in India in 2016, recorded 7.5 million swipes per day and reported the highest number of messages exchanged per match (Tinder Statistics, 2020). In 2019, Pune recorded the highest number of right swipes on Tinder in India, followed by Delhi, Mumbai, Ahmedabad, Chandigarh, and Bengaluru. After the banning of Tinder by the Government of India, over the last year,

Bumble India's user base quadrupled to above 2 million users (Roy, 2020). Bumble claims to be a female-focused dating app and has gained increased popularity amongst young girls. In order to empower women, in this app, while anyone could swipe left or right on matches, for heterosexual couples, only the woman could make contact first. In addition, these dating apps are typically designed in such a way that locates the nearest available sexual partner. Adolescents can choose to withhold any form of identifying information (Youn and Hall, 2008). A study done on Tinder users showed a significant correlation between Tinder use with nonconsensual sex and the number of sexual partners (Shapiro et al., 2017). Public health interventions can use these findings to develop more effective interventions to reduce risky sexual behavior online.

Role-playing games

Another form of online sexual activity is role-playing video games. This type of game, also known as Cyber sex, involves two or more participants playing sexual roles, with or without masturbation. In multiuser computer games or virtual worlds, such as Second Life, sexual fantasies can be expressed through text, live web cam transmissions, or avatars. Many of these games have been developed specifically for Cyber sex. Unless one considers the dangers that this pastime poses to adolescents, especially aggression and internet addiction, there are few studies on this (Rehbein and Baier, 2013). Studies have also found associations between a history of childhood abuse and provocative avatars that adolescents choose in the games (Noll et al., 2009).

Pornography

While the government of India banned pornographic content in India in 2015, the Supreme Court orally remarked that watching porn in a private room may fall under the right

to personal liberty given under the Indian Constitution. Hence it is not illegal. On the other hand, the top free porn sites have a category “teen porn” and “amateur porn” (Vannier et al., 2014). Research consistently shows that adolescents with higher pornography exposure tend to report more physical and casual sex rather than affectionate or relational motives, posing a risk to their sexual and reproductive health among them (Peter and Valkenburg, 2010).

Sexting

“Sexting” refers to sending sexually explicit content via a text message, email, or other forms. Such modes of communication are becoming popular as modern forms of flirting and expressing interest in another person. The first international survey on sexting found that 20% of adolescents engage in sexting (Pellai et al. 2015). Sexting has more vivid outcomes than most other online activities because of the risk of sexual images going “viral”, that is, being shared publicly and beyond the intended recipient (Draper, 2012). In addition possessing sexually explicit images of minors, including photographs that have been sent voluntarily by a teenage girlfriend also comes under violation of the law.

Impact of COVID-19

The COVID-19 pandemic forced children and adolescents to adopt the digital platform for learning and education, which was a boon as well as a bane. A multi-national study conducted in India, Brazil, and Saudi Arabia found a considerable rise in sexual activity among students compared to non-students during the pandemic (Ellakany et al., 2022). Unwanted teenage pregnancy was also postulated to be increased, but we need more data to get a clear idea.

Consequences

The potential consequences of media’s

influence on adolescent sexuality are enormous. Starting from “Teen Dating Violence”, which is defined as different kinds of aggression between partners, such as physical, sexual, and psychological abuse, and stalking (Johnson et al., 2014). It is possible to commit dating violence in person or online by controlling, publicly humiliating, or destroying a partner’s relational network through new technologies. Teens have been found to engage in cyber sex at high rates, which was also linked to teen dating violence. (Morelli et al., 2017).

A growing threat that often coexists with dating violence is sextortion (threatening to expose sexual images to force victims into providing sexual favors). Often, perpetrators stalk and assault victims, leading to serious consequences. In a study, nearly half of the victims reported failed relationships and academic difficulty. Also, three in tens ought mental health or medical services (Wolak et al., 2018).

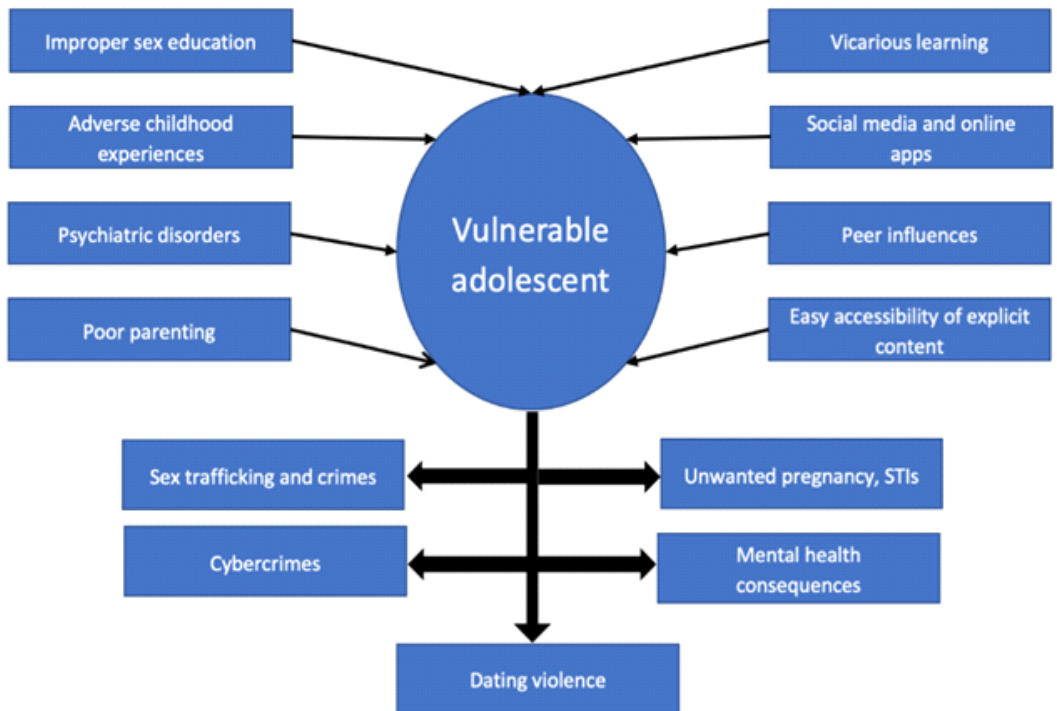
Social networking apps (e.g., Tinder, Grindr) have shown associations with greater sexual risk-taking. Users of apps geared toward homosexuals reported more unprotected sex and sex partners, greater risk of HIV, and greater odds of being tested for HIV (Macapagal et al., 2018). In addition, women have become increasingly open and free to engage in sexual encounters with nonromantic partners, known as “hookups”, because of increased openness to premarital sex and gender equality (Baumeister and Mendoza, 2011). The fact that up to 64% of college students reported being intoxicated during a hookup is not shocking, considering alcohol and drugs are often the catalysts for sexual behavior (Fielder and Carey, 2010), exposing themselves to a possible drug use problem at a later time.

The risk of depression, eating disorders, smoking, and frequent sexual behavior was

higher among females who experienced physical/sexual dating violence from the age of 13 to 19 when compared to females who were not exposed (Bonomi et al., 2013). Other

potential mental health consequences include problematic internet use, sexual dysfunctions, paraphilias, and substance use disorders.

Figure 2. Correlates and consequences of sexual vulnerability in adolescents



The approach of schools and colleges: How far have we come?

Although access to and the caliber of education provided in schools vary greatly around the world, schools nonetheless present a critical opportunity for imparting sex education. Sex education is “an age-appropriate, culturally relevant approach to teaching about sex and relationships by providing scientifically accurate, realistic, non-judgmental information” (Leung et al., 2019). The “abstinence-only” moral approach, influenced by religion, remains a substantial part of sexuality education in the US (Peppard, 2008; Schaalma et al., 2004).

European nations like Austria, Italy, and Poland adopt the functionalist approach, which prioritizes risk-reduction tactics above health-improving ones. Viewing sex education largely through biological and/or reproductive lenses-remains the norm. (Parker et al., 2009).

Another approach is comprehensive sexuality education (CSE). The National Council for Educational Research and Training (NCERT) in India has been trying to include sex education as a part of the school curriculum for a long time. NCERT developed Adolescence Education during its National Seminar in 1993. The National Curriculum Framework 2005 for School Education

pressed the importance of integrating age-appropriate adolescent sexual health into the school curriculum. Therefore, Adolescent Sexual and Reproductive Health (ARSH) was introduced.

The Ministry of Human Resource Development started the Adolescence Education Programme (AEP) in collaboration with NACO in 2005. AEP has been established as an umbrella programme to cover all the country's secondary and senior secondary schools. The AEP is currently functional in the Kendriya Vidyalaya schools and the Jawahar Navodaya Vidyalaya schools. AEP is also implemented in all affiliated private schools by the Central Board of Secondary education. AEP, however, had been the subject of controversy, with 12 Indian states banning it as sex education was believed to be immoral and to increase sexual activity in children. Two large household surveys about the delivery of Family Life Education (FLE) revealed that among those who perceived the need for FLE, only half of them actually received the same. In addition, Indian schools lag in providing trans-friendly rules. Students face obstacles with gendered uniforms, official records having a binary gender identity, and single-sex toilet facilities in schools and colleges. This shows that there is a huge unmet need (Tripathi and Sekher, 2013).

Conclusion

Our society seems to have evolved from playgrounds and meeting rooms of the past to chat rooms and virtual rooms today. In the ever-expanding digital area and evolving trends about sexuality, the role of psychiatrists becomes crucial. Careful screening and empathetic questioning the adolescents are essential to uncover the boundaries between normal and pathological sexual behaviours. Clinical and legal interventions should take into account a variety of other risk factors. More research is needed in this area for better

understanding. This will help to improve the education and training of professionals, and to raise awareness regarding the activities involved. In addition, it is necessary to disseminate appropriate reporting procedures and information resources to provide better preventative and legal interventions.

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