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The cover page water colour painting is the original work of **Mr. Bibhuti Bhusan Mohanty,** a noted green artist famous for carving art forms on green leaves and miniature sculptures on betel nuts. The painting depicts the initial feeling of boys and girls during the transition phase of adolescence. We acknowledge his contribution.

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Editorial

Tossed coin in the air, sexual health, and adolescents: Role of adults

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Key words: Sexual health, Adolescence, Potential for great impacts, Indian context

Sexuality during adolescence is as rightly described as "A bumpy ride"(Kar et al., 2015). It is a period of rapid development with lots of turmoil, a period of exploration and confusion. The current adolescent generation 'alpha' (2010- current) are not only part of the traditional struggles of adolescence but also face the challenges of the rapidly changing world and ever-expanding dimension of the virtual world, making them vulnerable in novel ways. Therefore, this issue was brought out to discuss relevant topics on adolescent sexuality.

The first feelings of desire and companionship start during this stage, retrospectively reported as "this was the time I first had a crush" (Fortenberry, 2013). The adolescents go through physical changes and start attaining adult-like stature. They also go through changes at cognitive, psychosexual, and psychosocial levels. The expectations from self, society, and the environment, the life events at this time, and the choices or the lack thereof have tremendous impacts on life (Friedman, 1992). The introduction to social media and the internet as independent users also start. Sexual experimentation and the desire for it (Deng et al., 2007), and the availability of erotic stimulations, mostly in the form of non-partnered sexual activities, are initiated during this time (Román García et al., 2021). Sexual exploration and its effects leading to the growing number of teenage pregnancies and sexually transmitted infections are few among the major challenges in this age group. The impressionable mind of the adolescent is vulnerable to misinformation, societal biases, and peer pressure. The expression of an individual as a sexual being begins mostly during this period. Identification of self as sexual minority (LGBTQ+) and acceptance of the fact brings about many challenges. Pop culture and media bring more stimulation to adolescents of native culture. The growing mind is affected by the nuances of hormones and the environment. Gender identity issues, peer rejection, body image, and perceived desirability (sexy) not only affect the domain of sexual health but also self-esteem and perception.

The age predisposes them to vulnerabilities and negative life experiences during this period, especially related to sexual activities.

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This can impact self-esteem, carrier, and over all health across the life span. Hence, educating adolescents on sexual health and related aspects of life and its life-changing capacity is not just the responsibility of the health care professionals but actually should be a combined effort of all the adult members of society. It is a dire need for inclusive development and progress to a better-adapted society.

The dialogue of sexual health, however, does not end at the healthcare provider level but moves across the domains of school, extracurriculars, and religion, stigma-free communication at all levels is necessary for the overall well-being of adolescents. Putting the key topics under modest coverings and omitting the important message complicates the conversation about sexual health. One can find themselves drowning in the ocean of information while searching for a pearl of truth, furthering the tangle of scientifically accurate facts. Additionally, I want to underline how challenging it is to reach the ocean floor with a good outlook, even when people successfully decode the oyster of truth. Therefore, it is advised that the key players in society, religion, science, and health care carefully work together and validate the pearls of wisdom to pass down knowledge to the next generation so that they can grow up to be at ease with and accepting of themselves.

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Guest Editorial

Sexually transmitted infections among adolescents: An emerging issue

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Key words: Sexually transmitted infections, Reproductive health, Sexual health, Adolescents

India has seen an increase in the incidence of sexually transmitted infections (STI) in recent times. This increase is remarkably evident in adolescents, who comprise approximately 20% of the Indian population (Shashikumar et al., 2012). According to the Nation Youth Policy of India, the population belonging to the age group 13-19 years constitutes the adolescent population. Adolescents have an increased risk of contracting sexually transmitted infections (STIs) from both biological and behavioral standpoints. Behaviourally, the prefrontal cortex, responsible for executive functioning, is yet to fully develop in adolescents. It can cause behavioral disinhibition, making them more prone to engage in high-risk sexual behavior like multiple partners or sex without using the barrier method (Steinberg, 2015; Workowski, 2015).

Moreover, unlike adults, adolescents hesitate to access and use sexual health services (Workowski, 2015). While biologically, adolescent women are especially susceptible to STIs like Chlamydia trachomatis (CT) and Human Papilloma Virus (HPV) due to lower cervical mucus production and high prevalence of cervical ectropion in this age group (Workowski, 2015). Male/ female ratio imbalance, growing urbanization, low literacy rates, poverty, and lack of comprehensive health education have also contributed to increased risk of exposure and lower diagnosis and treatment rates in the adolescent age group, making them a vulnerable section of the population (Shannon and Klausner, 2018). Data on STIs in adolescents is rather limited, even with high prevalence and morbidity. Most literature and guidelines focus on the adult sub-population (Shannon and Klausner, 2018). According to Newman L. et al. (2015), World Health Organization (WHO) in 2012 estimated approximately 357 million new cases of four curable STIs, namely chlamydia, gonorrhea, trichomoniasis and syphilis globally in the age group of 15-49 years. While

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as per the 2016 sexually transmitted disease (STD) surveillance report, Chlamydia trachomatis (CT) and Neisseria gonorrhoeae (NG) are more common among adolescents as compared to any other age group. Primary and secondary syphilis infections have also shown an increasing trend (Workowski, 2015). The prevalence of HPV (types 6 & 11 are responsible for 90% of genital warts, and types 16 & 18 are responsible for 70% of cervical cancer cases) has improved after the HPV vaccine introduction in 2006 (Markowitz, 2016). Herpes simplex virus (HSV), human immunodeficiency virus (HIV), and Hepatitis B virus infections also pose a great burden of morbidity in the young population due to unsafe sexual practices. Though some STIs are easy to treat, a few others are not. HIV/AIDS and HSV are incurable, with HIV/AIDs being the most serious and fatal. Emerging antibiotic resistance is also a concern for infections like gonorrhea and chancroid (Chugh and Gaind, 2012).

High-risk behaviors such as having multiple sexual partners, exposure to commercial sex workers, live-in relationships, alcohol consumption, and illicit drug use at a young age have also placed adolescents at high risk of contracting STIs (Sharma and Viswakarma, 2020). Prevention efforts hold critical importance in adolescents, as sexual habits are developing. These efforts should combine traditional sources of information such as schools and parents and newer promising sources, such as social media campaigns for the targeted audiences promoting STI testing and safe sex behavior (Friedman et al., 2016). HPV vaccination remains critical for both boys and girls, and broader vaccination coverage is needed to decrease HPV- related cancer and associated morbidities. The development of effective vaccines for other STIs should be further worked upon. Rapid point-of-care diagnostic testing for STIs should be implemented to screen and treat patients on the same day for better adherence to treatment and reduction in loss to follow-up. Affordable rapid diagnostic tests might be of great value in low and middle-income countries like India, where common STIs like CT and NG are managed through a symptom-based syndromic approach, which many times are missed due asymptomatic nature of these infections. Das et al. have concluded, after surveying adolescent girls, that regular surveys on knowledge, sexual attitudes, and behaviors should be conducted to get a better understanding of the epidemic of STIs among adolescents (Das et al., 2010). Maintenance of adequate confidentiality and a non-judgemental attitude by healthcare providers will help alleviate the young population's apprehension in seeking healthcare. Lastly, a confidential sexual history, including all past high-risk sexual exposures and STI screening, should be included in the routine healthcare for adolescents. The latest guidelines for educating, preventing, screening, diagnosing, and managing STIs in this vulnerable age group should be used and adhered to.

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Review Article

High-risk sexual behaviour in adolescence

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Abstract

Adolescence comprises the period between ages 10 to 19 of an individual's life period. It is a transitional phase from puberty to adulthood, characterised by distinct physical, physiological and psychological changes. "High-risk sexual behavior" has multiple definitions. Broadly it includes sexual activity that can expose a person to sexually transmitted infections, unplanned pregnancy, sex with someone who is neither a spouse nor a cohabiting partner, early age of sexual debut, unprotected premarital sex, paid sexual relationships, multiple sexual partners, and being in a sexual relationship(s) before being mature enough to know what makes a healthy relationship. Physical, and psycho-social harms often accompany high-risk sexual behavior. As per NFHS-5, 39% of men aged 15-24 who had sexual intercourse in the last 12 months had higher-risk intercourse (defined in the survey as sex with a non-marital, non-cohabitating partner) in the 12 months preceding the survey. The same statistics was reported by 2 % of women aged 15-24. Various individual, personal, family-related, and peer-related factors contribute to high-risk sexual behaviors. Enrolment in school, comprehensive sex education, and HIV prevention programs addressing relationship issues, as well as consent and safety from an early age in schools and other settings in which young people congregate, can prevent these behaviors.

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Introduction

Adolescence which comprises the period between ages 10 to 19 of an individual's life period is a transitional stage of physical,

physiological, and psychological development from puberty to legal adulthood (Sivagurunathan et al., 2015). It is a period of overwhelming changes and challenges that expose adolescents to high-risk behaviours. Around 17% of the world's population (Alimoradi et al., 2017) and about 21% of the Indian population are adolescents (about 243 million). They are the future of the nation, forming a major demographic and economic force (Sivagurunathan et al., 2015).

While sexual behaviour and expression of sexuality are natural phenomena, the context in which sexual behaviour is expressed may make the behaviour abnormal or risky. "High-risk sexual behaviour" has been defined variously as sexual activities which expose the person to risk of contracting sexually transmitted infections (STIs), including human immunodeficiency virus (HIV), unplanned pregnancy, and being in a sexual relationship before being mature enough to know what makes a healthy relationship (Alimoradi et al., 2017). Other definitions include anal/oral sexual intercourse, or vaginal intercourse without a condom or other contraception; sexual intercourse, with someone who is neither a spouse nor a cohabiting partner; early age of sexual debut, premarital sex without protection; paid sexual partners; multiple casual partners; having intercourse with an intravenous drug user; sexual behaviour that increases the chance of a negative outcome (Chawla and Sarkar, 2019). The negative consequences of high-risk sexual behaviour have been defined in the form of family conflicts, damage to relationships, legal disputes, or financial problems (Chawla and Sarkar, 2019).

Compared to adults, adolescents' physical, cognitive, and emotional immaturity increases the risk and severity of their reproductive and sexual adverse consequences (Alimoradi et al., 2017). High risk sexual behaviour is often accompanied by physical and psycho-social harm. In many developing countries, 15-19-year-old adolescents make up for almost half of the 19 million new cases of STIs every year, and half of new HIV cases in the world are reported in 15-24-year-old adolescents. It is seen that the majority of Acquired Immunodeficiency Syndrome (AIDS) patients have contracted the disease in their adolescence because a large proportion of the adolescent population has high-risk behaviours that expose them to the risk of sexually transmitted infections (Alimoradi et al., 2017).

National Family Health Survey (NFHS-5), 2019-21, the Demographic and Health Survey- India conducted with the help of the United States Agency for International Development (USAID) and International Institute for Population Sciences (IIPS) reports in detail regarding high-risk sexual behaviour amongst adolescents and young adults (International Institute for Population Sciences (IIPS) and ICF, 2021).

High-risk sexual activity: Thirty-nine percent of men aged 15-24 who had sexual intercourse in the last 12 months had higher-risk intercourse (defined in the survey as sex with a non-marital, non-cohabitating partner) in the 12 months preceding the survey. The same statistic was reported by 2 percent of women aged 15-24 (International Institute for Population Sciences (IIPS) and ICF, 2021).

Age at first sex: Thirty-nine percent of women aged 15-24 have ever had sex, compared with 21 percent of young men aged 15-24. Two percent of young women and 0.5 percent of young men reported having sex before age 15. Overall, the percentage of young people aged 15-24 who have had sex before age 15 has decreased insignificantly between NFHS-4 and NFHS-5 for women (from 3% to 2%) and men (from 0.9% to 0.5%)(International Institute for Population Sciences (IIPS) and ICF, 2021).

Premarital sex: Ninety-seven percent of never-married women and 89 percent of

never-married men aged 15-24 have never had sexual intercourse. Only 2 percent of never-married women and 7 percent of never-married men aged 15-24 years had sex in the past 12 months (International Institute for Population Sciences (IIPS) and ICF, 2021).

Multiple sexual partners: Among those who had sexual intercourse in the 12 months preceding the survey, less than 1 percent (0.3%) of women and 1 percent of men reported having more than one sexual partner in the past 12 months (International Institute for Population Sciences (IIPS) and ICF, 2021).

Use of condoms: Among never-married women and men who had sex in the past 12 months, 63 % of women and 62 % of men reported using a condom at last sexual intercourse. Among young women and men who had higher-risk sexual intercourse in the past 12 months, women were much more likely than men to have reported using a condom at last higher-risk intercourse (63% versus 58%). Condom use at last sexual intercourse with a non-marital, non-cohabitating partner is much higher among these women and men from an urban background (72 % women and 64 % men) as compared to rural background (59 % women and 54 % men) (International Institute for Population Sciences (IIPS) and ICF, 2021).

Self-reported Sexually Transmitted Infections (STIs): 12 percent of women and 9 percent of men aged 15-49 who have ever had sex reported having an STI and/or symptoms of an STI in the past 12 months (International Institute for Population Sciences (IIPS) and ICF, 2021).

Comprehensive knowledge about HIV and access to testing services:
Comprehensive knowledge about HIV was defined as knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chances of getting HIV/AIDS, knowing that a healthy-looking person can have HIV/AIDS, and rejecting two common misconceptions about transmission or prevention of HIV/AIDS (content of specific misconceptions asked in the survey were not available in the final report). 20 percent of young women and 29 percent of young men aged 15-24 were reported to have comprehensive knowledge of HIV(International Institute for Population Sciences (IIPS) and ICF, 2021).

As per the NFHS-5 survey, seeking 'Testing Services' for HIV tests may be more difficult for young people than older adults because of their lack of experience in accessing health services for themselves, and often, there are barriers to young people obtaining services. There was no elaboration on the nature of barriers. Among young people aged 15-24 who have had sexual intercourse in the past 12 months, the proportion who were tested for HIV and received their results was higher among women than among men; 13 percent of women were tested and received the results, compared with only 3 percent of men (International Institute for Population Sciences (IIPS) and ICF, 2021).

Teenage pregnancy: 7 percent of women aged 15-19 have begun childbearing; 5 percent of women have had a live birth, and 2 percent are pregnant with their first child (International Institute for Population Sciences (IIPS) and ICF, 2021). The data regarding the marital status of these women was not available.

A study analysing high-risk sexual behaviour in adolescent boys and young men by analysing NFHS-2 and NFHS-3 data concluded that early sexual debut, lower prevalence of condom use at first sexual experience, the tendency of live-in-relationship, and alcohol consumption indicate the hazardous interconnection between such behaviours among adolescent boys over the last decade placing them at

higher-risk sexual behaviour as compared to young men (Sharma and Vishwakarma, 2020).

Contributing factors towards high-risk sexual behaviour amongst adolescents can be viewed as follows:

Personal factors: A lack of complete knowledge about safe sex practices amongst adolescents also points toward high-risk sexual behaviour and increased risk of sexually transmitted infections (Maheswari and Kalaivani, 2017). Also, increased alcohol consumption was associated with more risky behavior in adolescents (Cavazos-Rehg et al., 2011). Prediction of adolescents' risky behaviours based on positive and negative mental health was reviewed by Soleimani Nia (Soleymani nia et al., 2006). Negative predictors of mental health, including physical problems, anxiety, social dysfunction, and depression, were examined. The results showed a positive correlation between negative indicators of mental health and risky behaviour. Among the negative indicators of mental health, anxiety and health problems had the highest correlation with risky behaviour in teens.

Also, positive predictors of mental health, including autonomy, environmental mastery, positive interpersonal relations, having a purpose in life, self-acceptance, and personal growth, were examined. Positive mental health indicators showed a negative correlation between these indices and risky behaviour. This means that increase in scores of positive indicators of mental health was associated with reduced risk of high-risk behaviour. Other personal factors like - engagement in other high-risk behaviours such as alcohol use, low educational level, lack of proper sexual knowledge and attitude, and improper sexual information sources were reported to have a significant correlation with the incidence of high-risk sexual behaviours (Alimoradi et al., 2017).

Family-related factors: Having intact family structures with parents who are not addicted or not involved in high-risk behaviours were important factors in preventing risky sexual behaviours among adolescents (Mmari and Blum, 2009). Having good family relationships and family support, adolescents' self-esteem and approval in the family were reported as effective factors in protecting adolescents from sexual deviance (Alimoradi et al., 2017). The authoritarian parenting style was associated with lower risk-taking, while the negligent parenting style was associated with higher risk-taking behaviour in adolescents (Alimoradi et al., 2017). In another study, strict parental supervision did not prove to be a protective factor (Joshi and Chauhan, 2011).

The likelihood of ever having had sex and having had sex before age 15 among women aged 15-24 also varied greatly by wealth. The percentage who has ever had sex declines from 45% among women in the lowest wealth quintile to 28% among women in the highest wealth quintile, and the percentage who had sex before age 15 declines from 4% among women in the lowest wealth quintile to 0.4% among women in the highest wealth quintile (International Institute for Population Sciences (IIPS) and ICF, 2021).

Peer-related factors: Sexual permissiveness of peers is associated with a higher frequency of risky sexual practices like one-night stands and having multiple sexual partners (Potard et al., 2008). Peer relations also affect attitudes toward substance abuse which could contribute to high-risk sexual behaviour (van Ryzin et al., 2012).

Table 1 depicts various factors denoted as risk (-) and protective factors (+) that affect adolescent sexual behaviour, pregnancy, childbearing, HIV/AIDS, and STIs (Joshi and Chauhan, 2011; Mmari and Blum, 2009).

Table 1. Various factors denoted as risk (-) and protective factors (+) that affect adolescent sexual behaviour, pregnancy, childbearing, HIV AIDS and STIs (Joshi and Chauhan, 2011; Mmari and Blum, 2009)

Environmental Factors		**Individual Factors**
Family		*Sexual beliefs, attitudes, and skills*
Family structure	+ Father is present	- More permissive attitudes towards premarital sex
	- Stepfather is present	- More permissive attitudes towards premarital sex
	- Higher number of children in household	+ Greater skills to resist unsafe sex
Mobility	- Residential mobility	+ Positive attitudes towards condoms/contraceptives use
Family modelling of sexual attitudes		+ Lower perceived barriers of condoms use
	+Mother has traditional sex values	+ Believes condoms prevent HIV/AIDS
	+ Parents approve of condoms/contraception	+ Perceives social support for condom/contraceptive use
	- Parents' marriage in conflict	+ Greater self efficacy to talk to partner about condom/ contraceptive use
	+ Postivite family dynamics	+ Visited by family planning worker
Peer		*Educational achievement*
	- Sexually active peers	+ In school
	- Peers have been pregnant	+ Literate
	- Friends Drink alcohol	+ Higher academic performance
		- Left school early
		- Repeated a grade
		Union status
		- Engaged
		- Divorced/separated/widowed
		Biological factors
		- Younger pubertal development
		Living arrangements
		- Lives out of home , Migrant
		Relationship with partner
		+ Longer duration of relationship before sex
		Problem or risk-taking behaviours
		-Substance abuse, attends discos/ clubs
		Emotional well-being
		- Low future aspiration
		Exposure to media
		- Views pornographic materials
		- Watches movies/videos regularly
		Previous sexual behaviours
		- Anal intercourse
		- Victim of sexual abuse/forced sex
		- Poor genital hygiene
		+ Regular use of condoms
		- History of STD
		-Genital discharge

In the authors' experience, as part of practicing psychiatry in a Government setup, adolescents are brought frequently by law enforcement officers like women police constables or probation officers, under the aegis of the Protection of Children Against Sexual Offences (POCSO) Act, 2012 and the Juvenile Justice (Care and Protection of Children) Act, 2000. It is commonly observed that adolescent girl is brought under POCSO Act while adolescent boys are brought under JJ Act. In the majority of the cases, history reveals consensual sexual activity among the partners who have been in a relationship with the intent to marry, sometimes running away from the parental home. Parents often register the police case. This reflects a lack of knowledge regarding the legal age of marriage and consent. This highlights the need for increasing public awareness and educating children and adolescents in schools regarding the legal age for marriage and consent so that such instances decrease. Although the phenomenon of grooming may be suspected if the perpetrator is an adult male and the victim is a minor adolescent female.

Considering what can be done to tackle this public health issue, various research shows that comprehensive sex education and HIV prevention programs are effective in reducing high-risk sexual behavior in adolescents. Behavioral intervention programs that promote appropriate condom use and teach sexual communication skills to reduce risky behavior and delay the onset of sexual intercourse and protect sexually active youth from STDs, including HIV, in addition to unintended pregnancy. Behavior-based sex education and intervention programs are designed to help young people develop good decision-making and communication skills and increase knowledge about disease transmission and prevention(Johnson et al., 2003). Wider participation in education programs decreases the number of sex partners and increases the use of condoms. In addition, participants develop better skills for negotiating lower-risk sexual encounters and increase the frequency of communications about safer sex (Johnson et al., 2003).

Schooling emerges as a definite protective factor; 71% of women with no schooling have ever had sex, while 8% had sex before age 15, compared with 33% of women with 12 or more years of schooling having ever had sex and less than 1% having had sex before age 15. Among young men who had sex in the past 12 months, the likelihood of having had higher-risk sex generally increases with schooling; 21-28% of men with no schooling or less than 5 years of schooling have had higher-risk sexual intercourse, compared with 57% of men with 12 or more years of schooling (International Institute for Population Sciences (IIPS) and ICF, 2021).

Gatekeepers and peers must communicate with adolescents and young people on issues of sex and sexuality, the risk of experimentation and empower them to make safe decisions to achieve better reproductive health outcomes. Individual level factors related to sexual beliefs, attitudes, and skills can be influenced by behavior change communication programs with the involvement of sectors that deal with adolescents, for example education sector, health sector, criminal justice system for juveniles, mass media, and social media sectors along with the provision of adolescent-friendly services (Joshi and Chauhan, 2011).

Sexuality education must be made universal and should address relationship issues, consent, and safety from an early age in schools and other settings where young people congregate. Programs must focus on the interventions on improving the protective factors, reducing risk factors, and not only on risk awareness alone. Adolescents' access to friendly services and an enabling environment in the community can improve their health-seeking behaviour.

Adolescents have many concerns, apprehensions, and lack of understanding regarding their needs. They feel shy, embarrassed, and hesitant in talking to adults, especially regarding matters that are related to sexual health. Most adolescents may avoid seeking care and guidance. They might discuss their concerns with their peers who may not have correct and scientific information. In addition to all this, adolescents may harbour myths and misconceptions regarding the development of sexual organs and reproduction, knowledge about health services offered, concerns about lack of privacy in local clinics, no transport or lack of affordability/money, the judgemental attitude of doctor/nurse (NCERT, 2020). In view of this, Adolescent Friendly Health Services (AFHS) are the need of the hour. AFHS can be fixed model or outreach model-based. The staff at AFHS should be able to show respect to adolescents, give them adequate time, treat them with patience, and know the importance of privacy and confidentiality. The infrastructure should be bright and colourful with awareness messages. The timings should be accessible to adolescents and not clash with school timings. The key role of AFHC is to monitor the growth and development of adolescents and provide information about the changes, promoting a healthy diet and preventing both malnutrition and obesity, counsel them on life skills related to sexual and reproductive health, tell them about prevention of diseases like HIV and STIs. Street youth, domestic helps, adolescents working in various industries, institutional inmates are adolescent groups who are at further higher risk (NCERT, 2020). Rashtriya Kishor Swasthya Karyakram mandates development of AFHCs. Kishori Shakti Yojana, Balika Samridhi Yojana, Reproductive and Child Health programme, National AIDS Control Programme are few other government programmes aimed at adolescent reproductive health (Ojha et al., 2019).

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Review Article

Pornography addiction and adolescent sexuality

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Pornography addiction, Problematic pornographic use, Adolescent sexuality, Indian adolescents, Sexuality

Abstract

Pornography addiction is rising in India due to easy access to the internet. Adolescence is a critical period for the development of sexuality. The lack of correct information and curiosity regarding sex and relationships make them turn to the world of pornography. The ill effects of pornography addiction lead into adulthood as well. India has a sexually active growing adolescent population, but educational, healthcare, and other related facilities do not make space for a nuanced understanding of adolescent sexuality primarily because of the social stigma attached. Measures should be taken to bridge this gap and raise awareness amongst adolescents.

Introduction

"Pornography addiction" or "problematic pornographic use", is a compulsive need to view pornography despite negative consequences. American Society of Addiction Medicine (ASAM), in 2011, recognised other forms which can be addictive, like food, sex, gambling, and shopping, along with psychoactive substances (Blum et al., 2022).

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The upcoming edition of ICD-11 (2022) comprises the entity "compulsive sexual behaviour disorder (CSBD)" as an "impulsive control disorder". It is defined as "a persistent pattern of failure to control intense, repetitive sexual impulses or urges resulting in repetitive sexual behaviour". This differs from an addiction and is described more as an impulse dyscontrol entity (de Alarcón et al., 2019)

"Problematic internet pornography viewing" is watching pornography on the internet, which is problematic for a person because of personal or social reasons, including the excessive time spent engaging in such activities rather than interacting with others, working, studying, and facilitating procrastination. Consequences include depressive and anxiety disorders, anger issues, poor interpersonal

relationships, impairment in occupational and social life, decreased productivity, or monetary losses (Dindo et al., 2017; Twohig et al., 2009).

The rates of pornographic addiction range from 3% to 6% in adults; however exact rates in adolescents remain unknown (Hegde et al., 2022). The internet's availability and speedier web connections have evolved the use and access of pornography over the last few decades. The need to consume pornographic content at all times could make them watch it in public places like work or public transit. The increasing availability and the curiosity amongst adolescents can make it a deadly combination. The taboo over this area amongst the general population, let alone adolescents, makes it difficult to tabulate the extent of the problem.

The consistent use of pornography may facilitate the escalation of craving due to certain metacognition changes, information processing, and problematic use leading to addictive behaviours. Multifactorial causation comprises biological factors where differences in brain structure or chemistry may make some people more likely to develop addictions (Hilton and Watts, 2011). Cultural influences like unhealthy or unrealistic societal and cultural attitudes about sex may contribute to pornography use. Other mental health conditions like comorbid addictions or other psychiatric illnesses might be more likely to engage in problematic pornography use.

Adolescent sexuality

Adolescence is a critical stage in the human development. Adolescence is a transitional and a phase of transformation. All individuals undergo multiple physical, hormonal, and psychological changes. This impacts the developing mind and various organs. The development of secondary sexual characters and a natural curiosity aid in this process. Adolescents may be confused about their changing bodies, often those who attain puberty earlier or later than their peers. Various hormonal changes make them feel new urges and emotions, which could make them anxious or excited (Kar et al., 2015).

Sexuality cannot be purely defined based on these biological changes that one undergoes. It is dynamic and fluid in nature. Sexuality may be envisioned as a lifelong process comprising various domains of experience such as emotional domains, different urges, feelings of motivation, attention techniques, aspects about oneself, processes related to the biology of an individual, personality factors, interpersonal ties, cultural prospects, social interaction and moral principles (Maddox et al., 2011).

The development of sexuality starts at conception. The experiences may define the critical shaping of one's sexuality during adolescence. The changes occur differently in both sexes due to the underlying biopsycho-social organization which drives sexual behaviour and functioning. Even though the sexuality of adolescents is a well-known and highly acknowledged topic, on the other hand, it is quite complicated and needs to be well understood (Massey et al., 2020). To conceptualise the challenges faced by adolescents, we need to account for various factors which act simultaneously. Adolescents are often susceptible to unsafe sexual behaviours, unprotected relationships, reproductive tract infections, social stigma, and sexual interactions that are non-consented. In India, adolescents deal with early marriages, unplanned pregnancies, sexual abuse, illiteracy, poor availability of health care, and insufficient information regarding sexual behaviour (Pirrone et al., 2022).

During the phase of adolescence, there is the entry of an individual to the genital phase from the phase of latency, and this genital phase throughout adolescence is maintained.

Sexuality remains inactive during the latent phase; however, during the genital phase, it becomes active (Kar et al., 2015). The need for intimate relationships with the other sex increases during adolescence. Developing a natural curiosity about one's body and sex fosters healthy sexual development. There is exploration among adolescents about various appropriate ways of lovemaking and intimacy. Adolescents investigate several acceptable methods of expressing their love and intimacy (Kar et al., 2015). Adolescent growth does not happen in a vacuum; rather, it happens in the family's and society's history in a particular culture, which affects the sexuality of adolescents.

In today's digital world and globalization, online platforms provide an important source of sexual behaviour modelling. As sex and healthy expression of one's sexuality may be considered taboo in our society, adolescents often shy from getting help from peers or parents, turning to the internet for help (Twohig et al., 2009). Adolescents, when struggling with sexual problems or dissatisfaction within their relationships, may view pornography. The unrealistic expectations after watching can lead to feeling inferior, fuelling poor body performance struggles (Pirrone et al., 2022).

They could struggle with internalising ideal norms brought on by inaccurate body image representation and excessive sexual engagement, which has negative social and self-esteem effects. Thus, this contributes to the inappropriate response to perceived predetermined behaviour and withdrawal from social and sexual activities and desires due to unreachable norms, creating a vicious circle (de Alarcón et al., 2019).

The problems: Effects of pornographic addiction

The curiosity among adolescents about sex and the availability of no proper and formal source of sex education is what makes adolescents watch pornography. Statistics on pornographic addiction are variable, but most studies estimate that pornography addiction is on a rising trend particularly among adolescents.

They denote that adolescents using pornography were more frequently males and at a more advanced pubertal stage, sensation seekers with weak or troubled relationships and family. Also, adolescents having a permissive attitude tended to be linked with sexual believes that were strongly gender-stereotyped. The rampant frequency of sexual intercourse, casual sex, multiple partners, early exposure to pornographic material, and sexual aggression, in both terms of perpetration and victimization, were also correlated (Massey et al., 2020; Pirrone et al., 2022; Massey et al., 2021).

Even though the Indian education system might slowly catch up to the need for comprehensive sexual education, there is still a dearth of information on sex-related topics. Because of this, adolescents turn to other informal sources of information, such as friends, movies, shows, social media, and pornographic material, being common sources of knowledge about sex-related information. Pornography serves this purpose but not in the right manner and is even a main source of knowledge on diverse sexualities and sexual practices (Maddox et al., 2011). Pornography fails to educate young people about the reproductive aspects of sex and the ethical negotiations surrounding sexuality, such as consent. It does not teach young people about relationship skills and safe sexual practices. Pornography can teach awareness and can foster acceptance of personal identities, sexualities, and bodies. Excessive pornographic use has also been associated with increased gender in equality and stronger beliefs in gender stereotypes associated with

sex. Pornography has fostered sexist attitudes and sexual objectification, particularly towards females in, resulting in negative impacts on how males regard females (Hegde et al., 2022).

Pornographic content has become more aggressive, with most scenes depicting acts of physical and verbal aggression. Themes in pornography exhibit males showing aggression and control and females being dominated; acts of aggression such as gagging, choking, and slapping; degradation and humiliation of women; women as objects of pleasure; unconventional and unrealistic forms of sex; unsafe and unprotected sexual practices; and engaging in sexual acts with multiple partners. Pornographic content displays sexual violence against females, which perpetuates sexual harassment of males and females. People who regularly engage with violent, pornographic material are more likely to be sexually aggressive compared to those who view non-violent pornographic material or those who do not engage with explicit sexual content at all. Those who frequently engage with explicit sexual material are more likely to be sexually aroused by violence. There has been a growing trend of adolescents who sexually assault other adolescents due to early or frequent exposure to pornographic content (Pirrone et al., 2022; Massey et al., 2021).

Quintessential working based on behavioural addiction, frustration when advised to reduce consumption, an inability to quit despite efforts, experiencing shame following pornography use but being unable to stop the habit, progressing to more extreme forms of pornography to find pleasure, finding sexual intercourse to be less satisfying, hiding pornographic viewing habits from others are few of the problems faced by them (Massey et al., 2020; Prause et al., 2015).

In some individuals, pornographic content may be used as a coping mechanism, a form of distraction from other psychosocial issues. Such adolescents have poor social bonds, interpersonal relationships, and aggressive sexual patterns. If left unchecked can lead to a pervasive phenomenon that carries onto adulthood. Sexual behaviour in adolescents is a vital domain of their physical and mental health. In India, most of the population is in the reproductive age group. Thus, mentally and physically fit children make healthy adolescents and adults (Kar et al., 2015; Massey et al., 2020). The negative consequences of pornography for the using adolescent and the person with whom he/she shares an intimate relationship with present or in future. Addiction, isolation, increased aggression, distorted beliefs and perceptions about relationships and sexuality, negative facets they harbour about themselves, the neglect in other areas of their lives are the negative consequences that are often carried over into various other aspects of their lives, especially relationships among family and couple relationship. In intimacy within the couple, there are negative impacts that pornography can have in the following ways there may be difficulty that user may face difficulty in arousal when not watching pornography, sexual interest may reduce, and reduction in the frequency of intercourse with a partner. There may be harmful content in the partner's mind, such as infidelity content and feeling betrayed. The person may even feel inadequacy about oneself in a sexual context. The partner may feel objection about the sexual desires that the partner demands, and there may be an experience a decrease in satisfaction levels in their relationship and intimacy in a relationship in the partner and user (Massey et al., 2020; Kumar et al., 2022; Pirrone et al., 2022; Massey et al., 2021; Prause et al., 2015; Hall., 2021; Taylor., 2020; Peter and Valkenburg., 2016).

Implications

The messages that sexualized materials convey impact how adolescents develop their identity,

attitudes, and beliefs, as well as their understanding of how society perceives them. Frequent engagement with pornographic content may also foster self-objectification, when one perceives his or her own body as an object of others' desires. Other psychological implications associated with the frequent use of pornographic material and exposure to other sexualized material include developing depression and low self-esteem. A damaging perception of one's body image can arise, associated with exposure to sexualized material (Pizzol et al., 2016). Depression and low self-esteem may also stem from body insecurities when one feels like he or she does not embody what society perceives to be attractive. Exposure to sexually explicit images can also pressure young people to take and send sexually exposing images of themselves to others, which may subject them to having their intimate images distributed without consent. This makes them susceptible to cyber bullying, sexual bullying, harassment, sexual abuse, child abuse, and sexual exploitation. These consequences may also distress or upset them and can damage mental and emotional health, increasing the likelihood of psychological and physical illnesses to manifest (Maddox et al., 2011; Seth and Srivastava., 2017).

The life-long consequences can involve almost all domains of life. There may also be some legal consequences. The protection of Children from Sexual Offences (POCSO) Act, 2012 criminalises sex with a minor and between minors. Any person who has sexual contact with anyone below 18 years is said to have committed sexual assault. Additionally, in a case where both participants are minors, the older participant or the boy is usually held guilty. Recently, on 4th February, 2021, the Bombay High Court said that consensual sex between minors is a grey area under POCSO Act since consent given by a minor is not considered to be valid consent in the eyes of the law (Kraus et al., 2016; Smith et al., 2000).

In the current scenario, we have multiple challenges due to the rising number of adolescents viewing pornography. The aforementioned effects, having legal and personal consequences, denote an important flaw: the dearth of proper and adequate sex education and the stigma around sex in our society. These two are the fuelling engines for this problem.

Future directions

It is time our education system, healthcare facilities, and judicial and legal systems recognise the overlapping issues related to sexual behaviour among adolescents. India does have a growing adolescent population that either is or wants to be sexually active, yet educational, healthcare, and other related facilities do not make space for a nuanced understanding of adolescent sexuality primarily because of the social stigma attached to it. The first step should be to acknowledge the problem and start with corrective measures. As with other behavioral addiction, we have multiple ways of tackling these problems (Massey et al., 2020).

On an individual level, it can be managed by behavioural modification. For example cognitive behavioural therapy works by helping a person to identify, challenge and change patterns of thinking and behaving that fuel pornography use, connecting with others and experiencing emotional intimacy is a powerful tool in helping a person with this type of addiction. Finding something else that's worth doing more than intermingling with pornography develops intrinsic motivation and potential upward mobility in life. Medication could help with some cases of excessive pornography use. Pharmacologic interventions have focused on treating co-existing psychiatric disorders and targeting hyper sexual or compulsive sexual behaviours (Pizzol et al., 2016).

Theoretically, we need to put adolescents' use of pornography in the context of larger social and cultural developments. Many debates about adolescents and pornography may benefit from considering adolescents' use of pornography as a part of bigger developments rather than as a singular phenomenon of its own (Maddox et al., 2011).

The field needs to become more open to questions about the positive implications of adolescents' use of pornography, notably sexual pleasure, and address more strongly notions of differential susceptibility as well as resilience to pornography. Only with such a more encompassing view of adolescents' use of pornography can we achieve a more nuanced understanding of what pornography means to adolescents (Maddox et al., 2011; Massey et al., 2020).

On a community level, organising awareness programs regarding the ill effects of pornographic addiction, although it seems easy,will be difficult to carry out. Starting with as simple measures as basic sex and health education programs in schools, particularly for older adolescents, making freer communication channels, and carrying out open dialogues regarding healthily expressing one's sexuality can be thought of.

Further research is recommended to assess patterns of pornography use over time; correlates of harm; pornography use in defining and enacting adolescent sexuality; how emerging media will change exposure; and the cultural impacts of usage. The probability that young persons will have exposure to pornography prior to the age of 18 is very high (Kumar et al., 2022).

Conclusion

Sexuality in adolescents is mostly a taboo topic with adolescents having poor access to the right information and help. Measures should thus be taken to raise awareness amongst adolescents. Most of young adolescents have daily access to the Internet. Among them about 75 percent admit the consumption of pornographic content. Among these majority are boys and, about 20 percent turn out to be habitual to pornography (Quadara et al., 2016).

Pornography addiction is on a rising trend, even though it has severe implications on the personal life and causes harm to mental health. Pornographic addiction leads to unrealistic expectations, and failure fulfilling these expectations causes relationship issues and inter personal conflicts. The exact extent and number of people with pornographic addiction is unknown due to people's privacy; however, it seems to be a rising problematic issue in the future; thus, effective strategies to combat this are necessary. There is elasticity in the boundaries of pornography addiction; however, its definitions are transient, and its use depends on various claims about neurological knowledge and metaphor. Thus, it is suggestible that if pornographic addiction is being taken into serious consideration relationship between metaphor and nosology is important.

There is a need to protect the growing number of individuals from the potential ill effects of pornography usage that can cause while pushing back on non-scientific claims about the ill effects. Thus, promoting a healthy and positive perspective on sex simultaneously.

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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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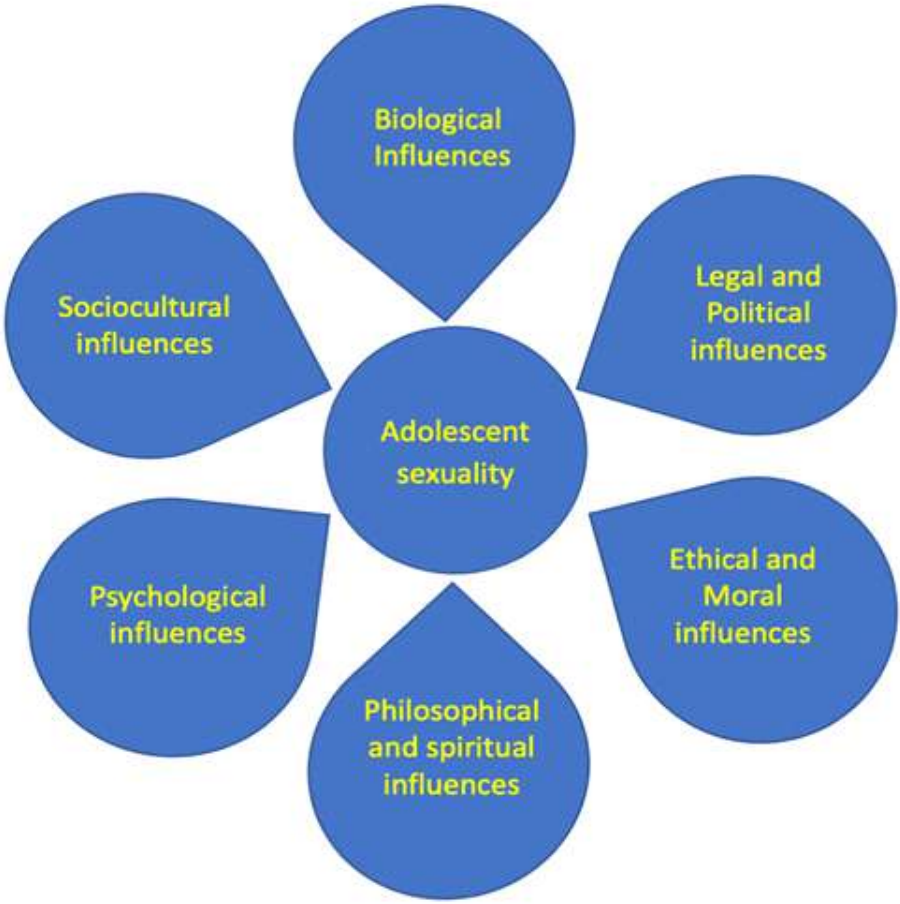
period is a transition from childhood (where sexual expression is not allowed) to adulthood (where sexual expression is fully sanctioned). We are aware that the critical developmental tasks in adolescence, i.e., the 10-19 years age group, are to become autonomous from parents and form an adult identity 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, not withstanding 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 isrole-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).

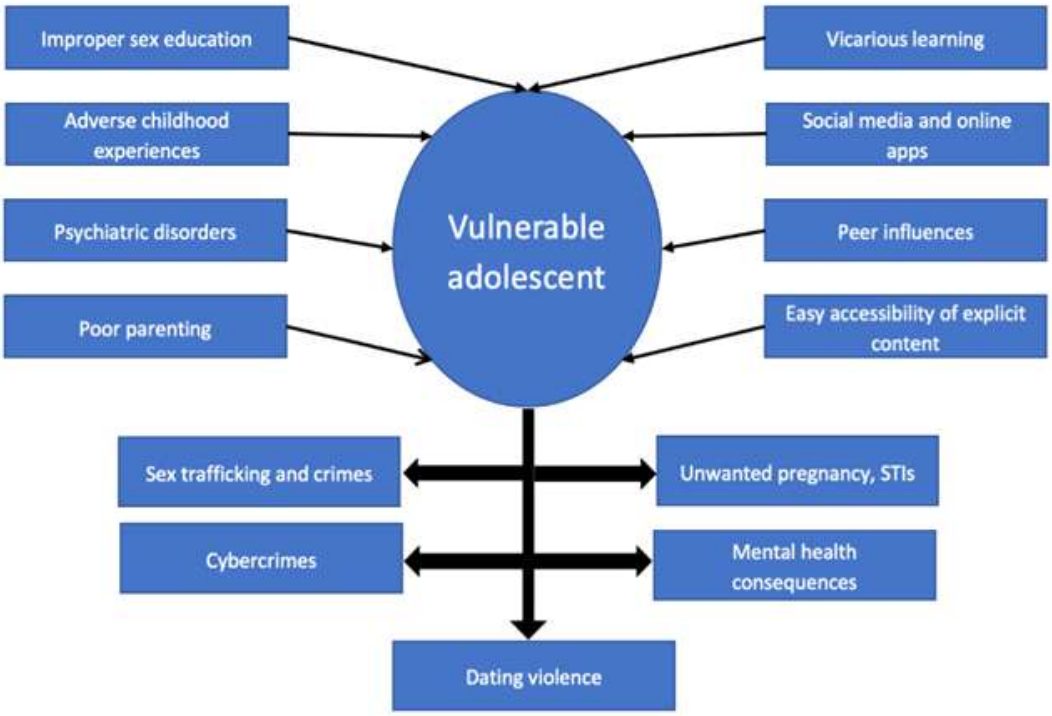
A growing threat that often coexists with dating violence is sextortion (threatening to expose sexual images to force victims into providing sexual favors). Often, perpetrators stalk and assault victims, leading to serious consequences. In a study, nearly half of the victims reported failed relationships 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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Review Article

Sexuality in intellectually disabled adolescents: The one who should not be named

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Abstract

Approximately every third person of the world's disabled population is an adolescent, with 80% coming from developing nations, among which intellectual disability affects many adolescents. The prevalence of intellectual disability (ID) among adolescent children in India is 2 %.

Transition during adolescence is unique to each individual with ID, including physical, emotional, and sexual changes and is challenging for them due to insufficient intellectual capacity to understand these changes. They face a lot of challenges like adjustment issues to pubertal changes, sexual abuse, socially inappropriate behaviour, disturbed family dynamics etc. They are even hesitant to discuss their sexual practices with family members or care givers.

Belief in this misconception that encouraging sexual dialogues may make them a target of sexual violence or exploitation can lead to a reluctance to provide sexual health education to intellectually disabled youth. Strategies like effective transition planning, medical support during puberty, and education on sexual health tailored for adolescent children with ID may contribute to smooth sexual transitioning for these adolescents.

Key words:
Intellectual disability, Sexuality education, Adolescent sexuality, Adolescent health

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Introduction

In 2013, the term 'Intellectual Disability' was introduced as part of neuro developmental disorders, replacing the term Mental Retardation (Harris, 2014).

Following the World Health Organization (2014) definition, an Intellectual Disability is a significantly reduced ability to understand new

or complex information and to learn and apply new skills (impaired intelligence). This results in a reduced ability to cope independently (impaired social functioning) and begins before adulthood, with a lasting effect on development.

As per the United Nations report, approximately every third person of the world's disabled population is an adolescent, with 80% coming from developing nations, among which intellectual disability affects many adolescents (United Nations, 2022). In India, the prevalence of intellectual disability (ID) among adolescent children is 2% (Russell et al., 2022), which is significantly huge in number. These people have some special needs which can't be ignored.

Adolescents with ID are often perceived as being hyper sexual, inappropriately sexual, or having an impulse that is difficult to control. However, these adolescents experience sex in the same way their peers with no disabilities do (Woodard, 2004). Many still reject the idea that everyone has sexual wants, desires, and feelings regardless of physical or mental capabilities. For these kids to develop healthy sexuality, comprehensive sex education, interventions, and guidance are required. They are entitled to sexual health care, sexual education, and chances for socialization and sexual expression (Isler et al., 2009). However, they are kept devoid of even the basic sex education or cordial parental sex dialogue.

It is well beyond time to discuss sexuality with adolescents with ID, particularly those who live in developing countries such as India, where the term 'sex education' is in itself considered taboo.

This report provides a general overview of sexuality among adolescents with intellectual disabilities, including a review of the development of intellectually disabled and normal adolescents, puberty, sexual behaviour, contraception, sexual violence, and sexuality education issues specific to children and teenagers with intellectual disabilities and their families and suggestion for smooth sexual transition among adolescents with ID.

Comparison of sexuality among normal adolescents and adolescents with ID

There is no difference in pubertal changes, like age of onset, the intensity of symptoms, or the pattern of sexual behaviour observed between a normal adolescent and an adolescent with ID.

The physical pubertal changes in adolescents with ID is the same as in adolescent without it. As they grow, they develop more interest in their preferred gender to fulfill the need and desire to get connected to others and be loved (Yildiz and Cavkaytar, 2017).

Children with disabilities are more likely to feel socially isolated, miss out on opportunities to engage with and learn from their peers, and may be miss out on sexual exploration possibilities as well as sexual experimentation, social activities, and sexual experimentation (Murphy and Young, 2005). In contrast, most of their contemporaries receive this information about sexuality from peers, schools, open contact with parents, and social media. This lack of information and neglect results in socially inappropriate sexual behaviour among them.

Adolescent children with ID are more likely to experience sexual and behavioural issues and basic developmental health issues (Akrami et al., 2014).

The chance to establish independence and self-determination is frequently constrained in relationships of adolescents with intellectual disabilities. Their relationships are often marked by reliance on others (Löfgren-Mårtenson, 2004). Many young adults with

intellectual disabilities are accustomed to thinking that others have the best judgement, so they rarely question other people's choices. The relationship between family members and/or teachers and youth with ID is frequently very close and strong. When these people are willing to listen and provide support respectfully, there are better chances for young adults to form positive self-images. However, imbalanced relationships are common in many situations, and the needs of these individuals are often ignored, resulting in poor self-esteem and self-image.

Sexual development needs of adolescents with intellectual disabilities (ID)

Puberty is a stressful transition period that gets more complicated in adolescents with ID. They are hesitant to discuss their sexual practices with family members or caregivers because they are often taught that it is bad to have sexual desires. They can have trouble finding contraception and other sexual health products and services. Additionally, they might require reassurances to engage in fulfilling sexual relationships and specific guidance on how to do so. These concerns must be understood and assistance must be provided by educators, parents, and healthcare professionals (Isler et al., 2009). Some of the basic sexual development needs of an adolescent with ID are listed in the table below.

Teenagers with disabilities have specific needs related to their cognitive and physical issues in addition to needs similar to those of their peers in gynecologic health care (Quint, 2014). The needs for healthy sexual development of adolescents with ID are described below in Table 1.

Table 1. Sexual developmental needs of adolescents with intellectual disability

	10-14 years	15-17 years	18 and older
Sexual developmental needs	• Good and bad touch • Physical changes occurring during puberty • Menstrual and pubic hygiene • Acceptance of self (self-esteem) and others • Values, rights, culture, and sexuality	• Reproduction process • Family planning concepts • Contraception options available • Demonstration of the use of contraception with appropriate AV aid.	• Parenting skills • Vocational training • Economic independence • Concept of family and social institution

Issues related to puberty among adolescents with ID

Adjustment issues to pubertal changes

Transition during adolescence is unique to each individual, including physical, emotional, and sexual changes that are challenging for the person to comprehend and adjust to. Adolescents with ID are in a worse condition since they lack the intellectual capacity to understand these changes and what constitutes socially appropriate sexual behaviour.

The adjustment to these physical and hormonal changes is more difficult for adolescents with ID, especially for girls.

Adolescent girls with severe to profound ID may not even have a basic understanding of menstrual hygiene. This increases the risk of reproductive tract infections and other complications among them.

Sexual abuse

Adolescent Children with ID appear to be the most susceptible, and they are four to six times more vulnerable to be sexually abused than their counterparts without impairments (Wissink et al., 2015).

They are neither safe in foster care nor under their parents' care. Adolescent girls with ID are found to be more at risk of sexual abuse when compared to their male counterparts (Soylu et al., 2013). In more than 49% of cases, the perpetrator is a group member or peer adolescent, followed by people from the close or extended family, such as foster parents and foster siblings (immediate family) and uncles and grandparents (extended family) (Wissink et al., 2018; Yüce et al., 2009).

Socially inappropriate sexual behaviour

Adolescents with ID are restricted to a confined environment consisting of close family members, counsellors, teachers, etc. They often lack knowledge about social norms and values. When they are hit by puberty, they respond to it in a raw natural way which is often socially inappropriate.

According to instructors, educators, and school counsellors, masturbation in public places, such as schools, is one of the most prevalent sexual behaviours among teenagers. Furthermore, these teenagers exhibit genital views and show private areas of their bodies to others. The necessary knowledge to cope with these sexual activities in adolescents, how to control them, and educate them is lacking among teachers, school counsellors, and educators (Goli et al., 2022).

Disturbed family dynamics

Parents endure shame, prejudice, and the emergence of different, contradictory conceptions of disability based on biological and local religious, social, and cultural assumptions. Caregivers also carry a heavy load with little family or community support (Edwardraj et al., 2010).

Families with the child with ID face increased family burden (Maes et al., 2003). This burden, directly correlated with the severity of ID and takes the shape of perceived inadequacy, time constraints, emotional burden, physical hardship, economic burden, and social burden.

The lack of effort and the limited involvement of their partner is a major cause of separation among parents of children with ID. Families with disabled children have an increase in divorce rates of 5.97% on average (Risdal and Singer, 2016).

The family members often blame and shift the responsibility for the child's care to each other, resulting in neglect of the child and the

development of feelings of self-blame, worthlessness, and low self-esteem within the child with ID. These factors resist the smooth transition of the child during puberty.

Challenges

Parental challenges

Discussing sexuality with the child

While assisting the child with puberty, they frequently worry that:

(1) discussing sex may encourage sexual experimentation;

(2) they will not be able to manage queries responsibly; and

(3) the children may already know more than enough or very less about the topic.

They usually do not know at what age or ways to start these conversations. Even parents who talk about sexuality with their children do not spend enough time on these topics because they feel unprepared and ill-equipped for such conversations (Ashcraft and Murray, 2017; Berman et al., 1999).

Parents/guardians of disabled youth may fear that encouraging sexual dialogues may make them a target of sexual violence or exploitation. Belief in this misconception can lead to a reluctance to provide sexual health education to disabled youth.

Protecting the child from maltreatment

Parents fear any misconduct with the child, especially during and after the adolescent stage of the child. Hence, they try to reduce social interaction and limit visitors to the child as a defense mechanism. Keeping an eye on the child at all times is a tiresome job.

Adolescent related challenges

Children with ID and neuro-developmental disorders are 20 times more at risk than other children to undergo early puberty, also known as precocious puberty (Siddiqi et al., 1999).

This premature puberty can further burden socially immature children with disabilities by influencing an already disturbed body image and low self-esteem, exaggerating the difficulty of performing basic self-care and hygiene activities, and increasing the danger of physical/ sexual abuse and rape. True central precocious puberty in most females can be efficiently treated with gonadotropin-releasing hormone agonists (Owens and Honebrink, 1999).

Society related challenges

Cognitive limitations are not the only reason to be blamed for the adolescents with ID's limited understanding of and conceptualization of interpersonal relationships. It is nevertheless blamed on the effects of social exclusion and segregation, which continue to influence their day-to-day existence (Dimitrakopoulou et al., 2022).

Children diagnosed with ID are more likely to experience stigmatization and prejudice from society; for example, people without impairments are less likely to view them as romantic, sexual, or marriage partners and are more likely to accept them as colleagues or casual companions. (DeLoach, 1994) The restrictions of the handicap itself may not be the biggest obstacle to an adolescent's sexual development, but rather these kinds of societal and psychosocial impediments (Berman et al., 1999).

Gaps

A constant state of guilt

Most research studies indicate that adolescent children with ID uphold conservative views about sexuality and the dominance of negative feelings in this area (Lunsky and

Konstantareas, 1998). Specifically, adolescents with intellectual disabilities perceive sex as dirty and something they should not discuss (Dimitrakopoulou et al., 2022).

Experiences such as holding hands with the opposite sex, caressing, and kissing are perceived positively compared to intercourse or touching without clothes which is not treated with the same positive acceptance. Likewise, the practice of masturbation is evaluated negatively by 63% of adults with intellectual disabilities. In contrast, most adolescents without ID evaluated it positively (Timmers et al., 1981).

Where to seek knowledge from?

Compared to adolescents in the general population adolescent children with intellectual limitations have trouble finding knowledge about sexuality. This difficulty in access is also affected by their level of intellectual disability (mild or moderate). For teenagers with more severe intellectual disabilities, a more methodical approach is necessary for knowledge access and easy comprehension (McCabe and Cummins, 1996). Information should be provided through trained counsellors, dedicated clinics, friendly conversation with parents and teachers.

Lack of counselling and training centres for parents and caregivers

There are very few support and training centres for caregivers and parents of children with ID to train them in various aspects of the needs of adolescents with ID and their parents. They need to be trained to deal with the sexual aspects of their growing wards, initiate conversations, addressing their curiosity.

Strategies to improve sexuality in adolescents with ID

Transition planning

Individuals with special needs, their families, local service providers, school officials, and government staff who help youth transitioning to adulthood collaborate on transition planning. Transition planning is an interactive, dynamic process requiring multiple meetings to prepare, organize, and implement a successful transition for a kid with special requirements.

The objective of transition planning for youth with special needs is to find opportunities and experiences to help them better prepare for life as adults during their school years (Johnson et al. 2002). Transition planning can help kids find work, pursue post-secondary education, and engage in meaningful community life.

Support to families and other caregivers

According to caregivers, there has been a lack of support from that outside of the immediate family. They often undergo a lot of physical, mental, or financial stress in balancing the ID person's support needs with other responsibilities; hence, they should be regularly screened for and proactively attended to by care givers' support needs.

In studies involving parents of kids with intellectual disabilities, multiple measures of social support are taken into account. Additionally, it is a crucial practical consideration that parents might be particularly vulnerable to disrupting their informal support networks during their child's adolescence (Dada et al., 2020).

Inter professional team collaboration

Education, health, vocational training teams, and other sectors of society should come together to assist adolescents with ID in effective and smooth transitioning through different stages of life. These teams can cover various aspects of transitioning adolescents with ID resulting in a holistic development of the individual.

Medical support during puberty

Hormonal intervention is advised for girls with intellectual disabilities to relieve dysmenorrhea, abnormal bleeding, cyclic mood changes, or a combination of these symptoms, to help with menstrual hygiene, and to provide contraception. Menstrual manipulation can ease menstrual pain, regulate cycles, or reduce monthly menstrual flow.

Sexual health education designed for adolescent children with intellectual disabilities

Beneficial improvements were seen when people learned to articulate their demands better and behave in a more socially acceptable manner (Menon and Sivakami, 2019). Hence these kinds of tailored education programs should be encouraged. A few strategies to improve to sexual transition process are discussed below in Table 2.

Table 2. Strategies to improve the sexual transition process among adolescents with intellectual disability

Strategy	Innovations
Understand and address the complexity of the life of adolescents with ID and their parents	• comprehending family dynamics; • determining the degree of ID and the amount of knowledge; • fortifying communities; and • addressing relationship dynamics
Increase the availability of high-quality sexual health education.	• Addressing adolescent development • Accepting adolescent sexuality • Promoting healthy interpersonal interactions • Converging gender and rights
Utilize technology and media to engage youth.	• Developing entertainment education for intellectually disabled adolescents • Making computer and web based sexual health education understandable for teenagers with intellectual disabilities
Create a supportive policy environment.	• Encouraging best practices and evidence - based policy • Working at the community level • Making ARSH clinics accessible to teenagers with intellectual disabilities
Enhancing the accessibility of contraception and other sexual health services	• Fostering trusting connect ions between providers and teenagers • Promoting youth-friendly services • Providing services in alternative settings

Inferences

While sexual health education and communication approaches may differ, youth with impairments share the same rights as individuals without disabilities and need the appropriate knowledge and skills. The same legal rights to sexual health information as their peers apply to young people with disabilities. However, programs should be modified so that the data can be understood and taught in meaningful ways. Individuals with ID have the equal rights in consensual sexual relationships as others in the community. However, comprehending and giving informed consent to sexual activity can sometimes be more challenging.

Future directions

In recent years, there has been an ideological shift away from considering the sexual conduct of people with disabilities as abnormal or pathological. Despite this change in thinking, many people with disabilities struggle to express their sexual conduct at the appropriate time, place, and manner. They need adequate support and a conducive environment via a team approach to deal with it. Pediatricians are encouraged to discuss sexuality issues with children and adolescents on a routine basis, to protect the privacy of children and adolescents, to promote self-care and social independence among them, to strive for adequate sexuality education, and to offer training and instruction to families of kids and teens with learning difficulties. Intersectoral coordination should be used to improve support for parents and children with ID. Treatment for this behaviour has many important implications for these children's developmental, social, and educational outcomes and community integration.

The effectiveness of therapy for inappropriate sexual behaviour in adolescents and young children with developmental disabilities in India has not received much research. To improve our understanding of evidence-based treatments for inappropriate sexual behaviour, more methodologically sound research must be done.

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Review Article

Parent-adolescent communication on sexuality issues: A matter to discuss

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Abstract

Adolescence is a critical time of development, including risk-taking and experimentation. There have been increasing trends worldwide for teenage pregnancies, high-risk sexual behaviours, early initiation of sexual activities in teenage, and a decrease in safe sexual practices. Effective parent-adolescent communication is imperative in shaping adolescents' beliefs and behaviour about sexual practices. However, there are several barriers to this effective communication. Effective parent-adolescent communication on sexual topics can help reduce negative consequences of adolescent sexual behaviours. Culture and other social factors play a role in parenting practices and communication patterns. We review this area concerning communication gaps and barriers between parent-adolescent communications on sexuality issues with special reference to the Indian context.

Key words:
Adolescence, Sexuality, Parents, Communication

Introduction

Adolescence is an important period of development that sets the stage for healthy adult relationships. Adolescents make up about 25% of the sexually active population worldwide. Global trends have shown sexual activity to begin from 15- 19 years of age with regional variations (Wellings et al., 2006). A shift towards later marriages has been shown to increase rates of premarital sex and unsafe sexual practices in the adolescent population in developing countries. Additionally, recent data suggest adolescents are at heightened risk of unintended/unwanted pregnancy (Centres for disease control and prevention, 2021).

Parent-adolescent communication on sexual issues is a significant factor in improving safer

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sex behaviour (Widman et al., 2016).In this regard, there is evidence to suggest that open communication between parents and adolescents is the key to better sexual health outcomes (Widman et al., 2016). Parents act as models for teaching behaviour as per the social cognitive theory (Evans et al., 2011). They can influence adolescents' attitudes, behaviour, and risk-related beliefs (Diiorio et al., 2003).

Culture shapes parenting practices, and India is no different. Although much has been said about parent communication about sexual health in western countries, data pertaining to the Indian subcontinent is scarce. It has been often seen that open communication between parents and adolescents does not take place about sexual topics due to embarrassment, inaccurate knowledge, or their own belief system that "these topics should not be discussed at home or with children". Therefore, it has been reported across several studies that a substantial proportion of young adolescents (17% to 87%) often report that they have not discussed sexual topics with a parent ever, which is a great matter of concern (Diiorio et al., 2003).

We provide an overview of the basics of parent-adolescent communication and issues in adolescent sexuality with an addition to Indian research in this area.

1. Sexual topics and parents: It is important to have a comprehensive discussion about sexuality and its related aspects (Ashcraft and Murray, 2017). This would ideally include all of the following, as mentioned in Table 1.

Other topics that can be covered include relationships, self-image, the importance of open communication, etc. It is always

Table 1. Sexual topics for discussion between parents and teenagers

Topics	Related aspects
Anatomy	Age appropriate names for body parts rather than use of 'distracting words'
Puberty	Development of secondary sexual characters specific to girls and boys
Menstruation	Normal cycles, maintaining hygiene
Masturbation	Normal outlet for sexual urges, appropriate time and place for engagement
Safe sexual practices	Use of contraceptives
Sexual orientation	Gender identity, gender expression, biological sex, and sexual orientation
Vaccination	Human Papilloma Virus vaccine
Pornography/ Media	Screen usage, consequences of sexting and other practices using social media
Bad touch	Children from a young age should be taught that none is allowed to touch their private parts. Any touch causing discomfort should be considered bad touch and should be taught to say 'no' at these scenarios. They should be warned against such people insisting the child to keep this a secret from parents.
Sexual abuse/ exploitation	Informing parents when they feel insecure
Other sexual practices	Oral or anal sex

important to start by finding out what they already know. Parents should not judge their child on how the child knows so much about sexual topics. Rather they should try to find out misconceptions related to sexual topics and correct them. Parents should understand that in internet era, the growing adolescent mind's curiosity can find answers to their questions related to sex. Parents should also be ready to answer questions that the teens ask. The key is to listen out. Parents also need to understand that, at the end of the day, they cannot entirely control their teens' actions.

2. What is talked and what is not talked:

Parents tend to focus only on the negative aspects of sexuality like abuse, exploitation, unwanted pregnancy, or sexually transmitted diseases (STD). Positive aspects of sexuality like masturbation, healthy relationships, pleasure, and safe sexual practices are often avoided (Ashcraft and Murray, 2017).

Such a demarcation holds true from the adolescents' point of view also. A systematic review found that adolescents mostly discussed STDs or HIV/AIDS with their parents compared to other topics like contraception or safe sexual practices (Eshete and Shewasinad, 2020). Moreover, topics related to maintaining hygiene during menstruation, masturbation, night falls etc., are often not discussed between parents-adolescents.

Therefore, there is a need to develop holistic communication patterns that can address these issues.

3. Patterns of communication between parents and teens: Content, pattern,and quality of communication play a crucial role in shaping adolescent sexual practices. In terms of content, teens who received 'comprehensive sex education' were significantly less likely to become pregnant at an early age when compared to those receiving 'no formal sex education' or even 'abstinence-only education' (Kohler et al., 2008).

Concerning pattern of communication, parents of adolescents who followed a 'dominant' or 'lecturing' pattern showed a higher likelihood of adolescents engaging in sexual intercourse (Rogers et al., 2015).

A recent meta-analysis of 19 articles on adolescent-parent communication on sexual and reproductive issues found that adolescents who lived in an urban locality, had good knowledge about sexual issues, agreed on the importance of discussion, and had experienced sexual intercourse were more likely to discuss openly with their parents (Eshete and Shewasinad, 2020). Further, females were more likely to discuss sexual issues with their parents than males (Mekie et al., 2020). Other factors which have been identified to play a role in parent-adolescent communication on sexual issues are the father's education, the perceived importance of sex education by parents, and the mother's openness to communicate about sexual issues (Bikila et al., 2021).

Higher quality of open, comfortable and respectful communication was found to be associated with greater safe-sex self-efficacy and less permissive sexual attitudes (Rogers, 2017). Often parents tend to use vague terms to convey their thoughts on sexuality. Their wards may not well understand this.

4. Barriers to communication about sex topics: Sex has long been considered a taboo. Parents reported a host of reasons which can be understood as barriers (Yibrehu and Mbwele, 2020). Parents tend to avoid or delay initiating the conversation on sexuality due to a fear of introducing sexuality before their teens are 'ready'. They expressed dilemma in the timing of initiation of such topics. They did not consider it their responsibility as related

topics are usually covered as a part of adolescents' school curriculum. Some parents did not perceive it as 'necessary' while others feared that talking about it might 'push' children in the wrong direction. Fathers tend to maintain a distance in such matters compared to mothers, who played more active roles (Usonwu et al., 2021). Parents preferred discussion with adolescents of the same gender over the opposite gender (Miller et al., 1998).

From the adolescents' perspective, there can be embarrassment or shame about the topic. There can be fear or criticism, or punishment upon revealing something sensitive. Most adolescents also felt that their parents may not be open to the topic or that they may refuse to answer their queries (Ashcraft and Murray, 2017). Apart from this, socio economic, religious and cultural factors may act as a barrier to communication. Table 2 highlights some of the important communication barriers between parent-adolescent on sexuality issues. Some cultures allow free expression of speech between adolescents and parents, but in others, there is undue emphasis on blind obedience to parents (Kapetanovic et al., 2020). Communication practices in countries like Kenya and China follow an authoritarian style, decreasing adolescent autonomy (Smetana, 2017). Religious sentiments also hinder healthy discussion. However, no studies have exclusively looked into how culture influences communication on sexual topics.

Table 2. Some important barriers of communication between parent-adolescent on sexuality issues (Ashcraft and Murray, 2017)

Barriers from parents' side	**Barriers from adolescents' side**
Real/perceived ignorance • *What if I don't know the answers ?* • *How to explain using the correct language without feeling offended or sounding vulgar ?* • *What if I say too much about sex?*	**Real/perceived ignorance** • *How to explain my parents using the correct language without feeling offended or sounding vulgar ?* • *What should I ask / Am I right in asking such questions to my parents?*
Fear of difficult questions • *About sexual intercourse, abortion, pregnancy etc.* • *What if the son/daughter ask about my teenage experience of sex?*	**Fear of difficult questions** • *What if my father/mother ask about my current sexual behaviour?* • *What if my father/mother ask me and ultimately come to know about my sex secrets?*
Finding out something unknown about the teen • *What if I get to know my child is already sexually exposed/active?* • *What if I get to know about my child's sexual orientation – is he gay/ is she lesbian?* • *What if I feel embarrassed after knowing my child's sexual activities – watching pornography, have an active sexual partner?*	**Finding out something unknown about the parent** • *What if I come to know about my father/mother past/current sex life?* • *What if I come to know about any history of abuse of my parent?*
Fear of teen's reaction • *What if my child says I am old-fashioned?* • *What if my child feels uncomfortable and moves away?* • *What if my child discloses some form of abuse?*	**Fear of parents' reaction** • *What if I sound stupid?* • *What if my parents won't be open to the topic?* • *What if my father/mother refuse to answer?*

5. Impact of strained parent-adolescent relationships: Adolescents are in a transition period where they tend to seek independence and autonomy. This change is not well met by some families leading to strained relationships. Strained parent-teen relationships have been associated with an increased prevalence of substance use in the latter (Mathibela and Skhosana, 2020). While an authoritative parenting style is considered a protective factor, a neglectful parenting style is a risk factor.This can also lead to a loss of trust in parents, leading to secrecy which further hampers the relationship. Adolescents confide in their peers, which may increase high-risk behaviour.

6. What questions to expect from the teens? : A substantial degree of worry and anxiety of the parents comes from the fact that "what questions to expect from the teens" when talking about sexual topics. Parents need to understand first how much knowledge about sexual topics their teen/child has till now. As evident from the research on children and adolescents' sexual knowledge and sexual maturity, children and adolescents know different aspects of sex /sexual knowledge as per their age levels. Table 3 mentions some of the information about sexual topics that are expected to be known by the child as per his/her age and what questions the parents can expect at that specific age range (Ashcraft and Murray, 2017).

Table 3. How much/what the teens know about sexual topics and what questions the parents should expect from the children/teens

Age group	How much/What the teens know about sexual topics	What questions/topics the parents should expect from the children/teens
11 to 13 years (Early adolescence)	• Words for sex • Exposure to sex words/slang words • May use sexual words even though they might not be knowing their actual meaning • May have seen pornography • Body parts and their functions	• Sex education in schools usually starts at 6th grade; parents should allow discussion on the topics the children had heard at schools • Topics on masturbation • Oral sex/ Anal sex • Sexual orientation – Gay/Lesbian – what does it mean • How does a girl get pregnant? • What is erection? • Night falls/Nocturnal emissions
14 to 16 years (Mid adolescence)	• Most teens have begun masturbation • Few might have experienced sexual activities with partners (kissing, touching, intercourse etc.) • Some might have experienced feelings of love/infatuation/ 'crush' • Sexual vocabulary may have increased • Understanding consequences of unsafe sex – pregnancy, diseases etc.	• When you had your first sexual encounter? – teens can ask parents if they are too close to parents • Condoms and safe sex practices • What is an orgasm? • Questions related to HIV/AIDS • Questions related to birth control pills/emergency pills • Questions related to infection related to sexual intercourse
17 to 18 years and above (Late adolescence)	• Most teens have experienced love /dated with opposite sex partner • Peer group discussions on opposite sex bodies/behaviours/related to sexual intercourse • Sexual encounters and emotional attraction are common	• How do you know/feel when you are in love? – commonly asked by teens to parent with whom he/she can confide • How to tolerate heart break? • Love at first sight – does it happen? • What is romance?

Benefits of adolescent-parent communication on sexual issues/topics

Longitudinal studies have found that teenagers who perceive that they have a better level of communication with their parents havea delay in the onset of sexual activity (Karofsky et al., 2001; Okigbo et al., 2015). A met analysis of various studies spanning over 3 decades, conducted on over 25,000 adolescents, reported a small but significant link between parental-adolescent sexual communication and safer sexual behaviour (Widman et al., 2016). Larger effects were seen in communication with girls than boys and discussion with mothers than fathers. Few studies have also reported that successful parent monitoring of adolescent's whereabouts and activities outside home and fewer communication barriers led to less initiation of sexual intercourse at an early age (Rose et al., 2005; Sieverding et al., 2005). Additionally, parental interventions that promote successful communication between adolescents and parents have been shown to delay sexual initiation during adolescence (Sieverding et al., 2005).

Implementing programmes to help improve parent-child communication on sexual health has been underway. Evidence shows that most such programmes reduced risky sexual behaviour in adolescents (Gavin et al., 2015; Santa Maria et al., 2015). This holds well in a community setting which seems to be the need of the hour. It also provides better comfort in communication between parents and teens in the long run.

Indian scenario

The youth in India need adequate sexual health education. Among college-going students in India, the commonest source for knowledge about sexual health were peers, pornography, or books. Less than a fifth communicated with their parents regarding this (Aggarwal et al., 2000). Students also felt that active parental involvement and open discussions were preferred to other sources of information (Brahme et al., 2020). However, there are various misconceptions that have been reported by adolescent school-going girls (about 49%) in an urban locality who felt that condoms should not be available to youth, suggesting poor knowledge and attitude towards common sexual issues and the need to implement gender-based sex education in schools and colleges (McManus and Dhar, 2008).

Additionally, in rural India, stronger cultural barriers prevent open communication (Guilamo-Ramos et al., 2012). A recent study in which 78 mothers and 91 fathers of adolescents (12 -19 years) were interviewed reported that parents often feel that they lacked adequate information to communicate with their children (Sandra Byers et al., 2021). Parents also felt it was 'inappropriate' to discuss sexual health before marriage. Both adolescents and parents attributed being sexually active prior to marriage as a 'loss of honour' and disrespect to the entire family in the community. Among adolescents, fear of parental punishment was one of the main barriers. A common theme of abstinence before marriage was being imparted to adolescents. Parents' attitudes, knowledge, comfort, and history of sexual communication with their own parents were important factors limiting parent-adolescent sexual communication engagement (Sandra Byers et al., 2021). The parents' religion, caste, educational qualifications, and background further colours all the above mentioned findings (Abraham, 2001).

Few studies which had explored sexual behaviour/activity among school-going adolescents have reported that about 30% of boys and 17% of girls have experienced sexual contact, and about 1.3% of girls experienced sexual intercourse. However, they lacked adequate knowledge about sexual activity

(Ramadugu et al., 2011). Another recent qualitative study that used focussed group discussion on sexual topics among 74 college students (separately for boys and girls) revealed that a majority of adolescents favoured active involvement of parents, and school teachers in sex health education and also suggested that better-informed parents lead to better-informed adolescents (Brahme et al., 2020). However, still, there are various barriers to open discussion on sexual issues between parents and adolescents, and there is very low adolescent sex education in India, which needs more emphasis both at societal level as well as the family level (Ismail et al., 2015; Sharma, 2020). There are limited studies from India concerning parent-child communication on sexual issues, and this area needs further exploration.

Conclusions

Parent-adolescent communication on sexual issues is an emerging area of concern, which has potential benefits for the growing adolescent for a healthier parent-child relationship as well as for a healthier, disease-free life. While there are several studies from western countries, this area is still viewed as a 'no-discussion' topic or taboo to discuss in most Indian families. Both parents and adolescents need to break the communication barriers on sexual topics and freely discuss sensitive topics without feeling judged or embarrassed. India is growing fast in the direction of modernization, and adolescent sexual issues/exposure are on the rise. It is the need of the hour that Indian parents be sensitized to discuss sex education with their children and adolescents without any hindrance. Mass communication media can play a big role in educating parents and adolescents on these topics.

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Original Article

Parents and issues of sexuality education in the Nigerian secondary schools

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Abstract

A cross-sectional survey was conducted to explore parents' perspectives on sexuality education among 800 parents in Southwestern Nigeria. The data were collected via a validated questionnaire. The results showed that 82.9% of the parents supported sexuality education for both male and female children. The majority (82.3%) would have encouraged teachers to openly discuss sexuality education in the school with their children, while 17.8% opposed it. Parents expressed sexuality education to be handled by Health Education teachers (41.6%), Biology teachers (41.0%), and school guidance/counsellors (35.8%) than any other teachers in the schools. While gender (χ^2= 8.577, p<.05) and location (χ^2= 10.941, p<.05) significantly influenced parents' perspectives of children's sexual education, level of education did not. The study concludes that parents are increasingly embracing school-based sexuality education as appropriate for both male and female children but preferred it to be exclusively handled by relevant teachers within the school setting.

Key words:
Parents, Sexuality education, Disposition, Child's gender

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Introduction

Globally, there is a clamour for comprehensive sexuality education (CSE) to be introduced in schools for the benefits of children and adolescents. This call is the sequel to the acknowledged fact that it is only through comprehensive sexuality education that children and young people can acquire the knowledge and skills needed to make healthy and responsible life choices (UNESCO, 2021).

CSE is described as a curriculum-based process of purposeful teaching and learning interaction focussing on the cognitive, emotional, physical, and social aspects of sexuality. Several benefits have been attributed to its teaching at the school level. These include facilitation of the realization of sustainable development goals, improving sexual and reproductive health-related outcomes such as reduction in the rate of sexually transmitted diseases like HIV infection and adolescent pregnancy rates that will later help expand the horizon of education opportunities, disrupting harmful gender norms and promoting gender equality, as this contributes to a reduction in gender-based violence that eventually leads to the safe and inclusive learning environment (UNESCO, 2019).

In the contemporary world, sexuality education aims at liberating the minds of children and adolescents from the shackles of orthodox or traditional beliefs in some cultures that forbid discussions relating to sexual matters. Besides, it is also considered an important component of education which is described as a basic human right and the foundation that anchors peace and sustainable development. To achieve this mandatory obligation of equipping children and adolescents with the requisite knowledge and skills for navigating the world of sexuality resulting from the implementation of quality and comprehensive sexuality education domiciled within the school settings, different countries of the world formulate policies and legal frameworks that could enhance the teaching of sexuality education. In Nigeria, for instance, the National Policy on Gender for Basic Education (2006) and the National Policy on HIV and AIDS for the Education Sector (2005) has been identified as a step in the right direction. While the former encourages the respective state government to enforce the incorporation of family life and health education in the school curriculum, the latter specifies that the abuse or harassment against female staff or students should attract penalties (UNESCO, 2021).

In a survey conducted by the National Population Commission (NPC & ICF, 2019) among 42, 000 households where women of age range 15-49 and men of age 15-59 years were targeted as a representative sample, it was found that women initiate sexual intercourse 4.5 years earlier than men. The median age at which women experienced their first sexual intercourse was 17.2 years, as against 21.7 years found for men. Also, 19 and 57 percent of women respectively initiate sexual intercourse by age 15 and 18, in which 7 out of every 10 women have experienced sexual intercourse by the age of 20. For men, 3 percent of men within the age range of 20-49 years have their first sexual intercourse experience by the age of 15, and 3 out of 10 of them have had sexual intercourse by age 20. The total percentage of women who have had sexual intercourse experience by age 18 has increased from 54 percent in 2013 to 57 percent in 2018, whereas; a decline in percentage was recorded for men from 19 percent to 15 percent. It was also reported that in Nigeria, 19 percent of women aged 15-19 had started childbearing; 14 percent had given birth, while 4 percent were pregnant with their first child.

Parents' disposition towards the teaching of sexuality education in schools

The need for collaborative efforts towards equipping children and young adults with sexuality knowledge and skills cannot be overemphasized. The success or otherwise of comprehensive sexuality education based in the school setting depends on the genuine commitment of the government, the schools, and parents. Each identified stakeholder has one particular role or the other to play. Though, parents are considered a child's first educators, nowadays the occurrences in the global world have shown that parenting is

becoming more complex than ever before. Children and young adults are exposed to online information that is sometimes beyond the reach of the parents as a result of exposure to internet content.

Recently, the access rate of children and teens to the internet and online content is increasing. A completely new lifestyles introduced by the advent of smart phone access and use and the rise of social media has further exacerbated parenting challenges. According to Pew Researcher Centre (2020), not less than 66 percent of parents, including those with at least one child under the age of 18 in the United States, attested to the fact that parenting nowadays is becoming more challenging than it was some 20 years back. A study has shown that media use by children of age 8 to 12 years had increased by 3 percent from 2015 to 2019 and for teenagers (13-18years) by 11 percent. Between the years 2019 to 2021, the rate of usage has soared to 17 percent for the children in the two age categories. According to ACT for Youth Centre for Community Action (2022), some of the internet interactions of children and teens are characterized by flirting, sexting, partner seeking, and pornography.

Social media exposure has contributed to children's and teens' sexual behaviour. Findings of Lenhart, Anderson, and Smith (2015) in the United States showed that 55 percent of teenagers of age 13 to 17 years flirted or talked to someone in person to express their interests, 50 percent of teens have particularly indicated their romantic interest through friendly them on Facebook or other social platforms. Strasburger, Zimmerman, Temple, and Madigan (2019) reported that teens' sexting is becoming a recurring decimal with a rising trend attributed to teens uncontrolled access to smart phones. Sexting has been found capable of increasing the sexual behaviour of teens, and despite the law prohibiting these acts teens' behaviour and digital invention had surpassed the enactment of relevant new laws.

Schools as indispensable partners in implementing school-based CSE might be confronted with certain difficulties. Literature suggests that teachers expressed their lack of confidence (UNESCO, 2021) and poor knowledge and skills (Adogun and Nwafulume, 2015; Keogh et al., 2021) in delivering sexuality education. However, different countries are trying to scale up teacher training to enable them to overcome their fears and concerns. UNESCO (2021) reported the possibility of opposition to CSE that can be attributed to misinformation about the content and purpose or impact of such education at school level.

Despite the inherent benefits of CSE, its open discussion and teaching at the classroom level might not be totally acceptable by some parents due to certain belief systems and other factors.

Gender and sexuality education

Parents' perspectives on which gender should be exposed to sexuality education, their acceptance of such education in the school settings, and who should actually handle the teaching of sexuality education worth exploration. The need to consider gender while developing and implementing programmes relating to sexual education has attracted the attention of researchers. This is due to some cultural values and practices that seem to give a supposedly undue advantage to a particular gender over the other in the system.

Attitudes and behaviours towards sexuality and impacts on women and men tend to be shaped by gender (Ricardo et al., 2006). Peplau (2003) observed that differences between males and females are pervasive and affect thoughts, feelings, and behaviours that are not only peculiar to heterosexuals but also found

among lesbians and gay men. It was also reported that in terms of sexual desire, men usually exhibit significantly greater sexual desire than women, but women usually place a premium on committed relationships as a context for sex than men. Mothers were found as frequently communicating about sexuality than fathers, and girls received more communication on sexuality than boys (Rosenthaland Feldman,1999). In a recent study, Radi (2020) found that in the Democratic Republic of Congo, male participants expressed that at a young age, male children are taught they are superior in the house and that their female counterparts are there to serve them, take care of the household and children. Likewise, Shi et al. (2022) found that sex education is considered more important for female than male children and that men paid less attention to issues related to sex education both as individuals and as fathers in a study in China.

Based on data from the 14th Korean youth risk behaviour online survey, Kim, Park, and Park (2021) found that boys had early sexual debuts, a lower frequency of contraceptive use, and lower rates of access to sex education in school. Gender and age differences were also associated with sexual behaviour and mental health. In a cross-sectional study carried out in South East Nigeria among 150 teachers, Adogun and Nwafulume (2015) found that 82 percent of the participants embraced sexuality education for males and females while 14.7 and 3.3 percent respectively favoured females and males only. However, the findings of Odebode (2019) revealed that most parents preferred sex education to be restricted to only male children.

Another factor influencing successful comprehensive sexuality education in schools is parents' acceptance and cooperation. Nevertheless, there seems to be some pocket of opposition to teaching sexuality education in schools. It is important to stress that the reasons behind the opposition are not the same across nations and cultures. For instance, the age at which sexuality education should be introduced to children seems to dominate parents' opposition in developed countries. For instance, the 2011 survey conducted by the Baby child website among 1,700 parents in the UK showed that 59% of the parent participants opposed engaging children at a young age with sex education (BBC, 2011). It was reported that 41 percent of the parents agreed that sex education is inappropriate for children, 28 percent indicated that it should be the responsibility of each parent, 27 percent see no need for children to know about sex. In comparison, 22 percent were of the opinion that it may encourage children to ask more about sexuality and sex. Also, 48 percent of parents indicated that children should be exposed to sex education at age 13 or older.

Robinson, Smith, and Davies (2017), in their study, carried out among 342 Australian parents of primary school children, found that most parents acknowledged the relevance and importance of teaching sexuality at the primary school level but solicited collaboration between homes and schools. However, some parents acknowledged that some topics should be restricted from being handled at home.

In developing nations, religion and culture pose challenges to teaching sexuality education (Raising, 2003; Ohi, 2016; Mukoro, 2017). For instance, in Zambian culture, discussing sexual matters with an opposite sex who is not a spouse is considered taboo, including discussing with one's children. Taboo only permitted sexual discussion to be handled by grandparents (Raising, 2003). A study (Wangamati, 2020) also suggests that parents may oppose teaching sexuality education due to the fear that such knowledge may promote promiscuity.

In Nigeria, the teaching of sexual education or the designing of its curriculum is also

confronted with values or cultural norms of the society where the schools are located (Mukoro, 2017) and part of cultural settings. This might affect parents' disposition towards implementing sexuality education in schools. The findings of Ugoji (2009) suggest that male, young, and urban parents tend to express a positive attitude towards teaching sexuality education than their female, older, and rural counterparts. In another study carried out among 400 parents in Cross-River State, South Nigeria, Akpama (2014) found that the majority of the parents frowned at exposing secondary adolescents to sexual education at the secondary school level, and this attitude was not influenced by the level of education of the participants as no significant difference existed between attitudes of literate and non-literate participants.

Likewise, Odebode (2019) found similar outcomes in a study conducted among 400 parents in Kwara State, North Central Nigeria. Odebode (2019) reported that parents' disposition toward teaching sexuality education for adolescents in schools was negative. This disposition was found to be significantly different based on gender and educational qualification. Males and parents with less education exhibited more negative attitude. It is believed that such teaching could corrupt adolescents, be against the tradition of society, be morally improper for adolescents, promote teenage pregnancy, and increase the rate of premarital sex.

Parents' preference for handlers of sexuality education in the secondary schools

The actual implementation of sexuality education in schools has also raised issues concerning who is actually to take responsibility at the classroom level. Presently, in Nigeria, there seems to be no college of education or other higher institutions of learning saddled with the responsibility of training teachers to obtain certificates or degrees in sexuality education. As a result, teachers in other related fields, such as Biology, Physical Health Education, CRS, Social Studies, etc., have been deployed to take responsibility at the classroom level. Likewise, researchers have beamed their searchlights on students' and parents' preferences for who should take part in the teaching of sexuality education in schools. Studies (Onwuezobe, and Ekanem, 2009; Hashimoto, et al., 2011; Wanje, et al., 2017; Odebode, 2019) suggests that parents generally prefer sexuality education to be handled by teachers, while Rosenthal and Feldman, (Rosenthal and Feldman, (1999) found that young people expressed displeasure with parental communication about sexuality. In a study carried out among 1000 respondents (comprising 400 secondary school students, 480 parents, and 200 teachers) in one local government in southwestern Nigeria, it was found that 70, 60, and 60 percent of students, parents, and teachers respectively agreed that parents should handle sexuality education.

Statement of the problem

Nowadays, children and adolescents are more exposed to sexual information and content than ever before, which tends to influence their sexual behaviour and practices. In most cases, children and adolescents are confronted with sexual-related matters beyond their cognitive capability. Coupled with several sexual immorality and practices prevalent in contemporary Nigerian society, denying children and adolescents the requisite knowledge and skills for effective decision-making constitutes injustice and an infringement of their constitutional rights to good life. Nevertheless, as important as sexuality knowledge and skills are to these younger ones, parents are still yet to embrace the reality of the need for children and adolescents to have unhindered access to sexuality education. This study therefore aimed to explore parents' perspectives on sexuality education in Nigerian secondary

schools. Specifically, the study aimed at answering questions such as which gender of children parents would like to know about sexuality education in schools; how parents would react to the teaching of sexuality education in schools; who should handle such teaching at the classroom level as well as whether parents' gender presence could be influence by their gender, level of education, and the location where they are living.

Methods

A cross-sectional survey design was adopted in the study. The population of the study comprised all parents in southwest Nigeria. Six states make up Southwestern Nigeria. These states are Ekiti, Ogun, Ondo, Osun, Oyo, and Lagos. Four States were randomly selected to participate in the study, while 200 parents were selected from each states. The total sample size of parents that participated in the study was 800. Gender: male (39.3%), female (60.8%); Age: below 40yrs (49.5%), 40-59yrs (48.3%), and 60yrs and above (2.3%); Level of Education: No formal education (5.1%), Pry/secondary (53.5%) and Tertiary (41.4%); and Location: Rural (41.0%) and Urban (59.0%). An instrument titled 'Parents' Perception of Sexuality Education Questionnaire (PAPSEQ) was developed to collect data that measure parents' attitudes to teaching sexuality education in schools. PAPSEQ comprises of two sections. Section A contains items on socio-demographic data of the parents. In contrast, section B of the instrument comprises items that addressed parents' perspectives on child's gender and sexual education, their disposition towards its teaching at the classroom level, and who should handle such teaching. This instrument was validated before its use. In order to validate the instrument for this study, a draft copy of the questionnaire was given to experts in the field of Health Education, and Counselling Psychologists, and Tests and Measurements were for vetting to establish construct, content as well as face validity. In contrast, language experts helped determine the appropriateness of the language used and other grammatical issues that can impede respondents' thorough understanding of the items in the questionnaire. Then, the instrument was pilot-tested on 40 parents, and internal consistency based on Cronbach's Alpha and Spilt half approaches was adopted in determining the reliability. The reliability coefficient obtained using the two approaches, respectively were .752 and .712. The data were analysed using frequency, percentage, and Chi-Square statistical technique via SPSS version 21.

Table 1. Parents' perspective on child's gender and sexual education

Children Category	Frequency (f)	Percentage (%)
Only male children	37	4.6
Only female children	100	12.5
Both male and female	663	82.9
Total	800	100.0

As shown in Table 1, 4.6% of the parent participants indicated that only male children should be taught sexuality education in schools, 12.5% indicated that only female children should be involved. In comparison, 8.9% of the parents indicated that male and female children should be taught sexuality education in schools. This, therefore, shows that the majority of the parents subscribed to teaching both male and female students sexuality education in secondary schools

Table 2. Parents' disposition towards teaching of sexuality education in schools

Items	Response	Frequency (f)	Percentage (%)
Will you encourage teachers to openly discuss sexuality education in the school with your child?	Yes	658	82.3
	No	142	17.8
	Total	800	100.0

As shown in Table 2, 82.3% of the parent participants were favourably disposed towards teachers openly discussing sexuality education in the school with their child(ren), while 17.8% of the parents were not in support of open discussion about sexuality education in school. Therefore, this shows that most parents were favorable to teachers openly discussing sexuality education in the school with their child(ren).

Table 3. Parents' preference for sexuality education handlers in the secondary schools

Sexual Education Handlers	Frequency (f)	Percentage (%)
Health education teacher	333	41.6
School nurse	235	29.4
School guidance/counsellor	286	35.8
Physical education teacher	201	25.1
Biology teacher	328	41.0
Basic science & technology teacher	192	24.0
Integrated Science Teacher	190	23.8
Invited Trained Personnel	111	13.9
Invited Parent	153	19.1
Invited Medical Doctor	228	28.5
Civic Education Teacher	113	14.1
Social Studies Teacher	89	11.1
Home Economics Teacher	74	9.3

Table 3 shows that 41.6% of the parent participants preferred sexuality education in secondary schools to be handled by a health education teacher, 29.4% showed a preference for a school nurse, 35.8% preferred school guidance counsellor, 25.1% for physical education teacher, 41.0% for the biology teacher, 24.0% for basic science and technology teacher, 23.8% for integrated teachers, 13.9% for invited trained personnel, 19.1% for invited parents, 28.5% for invited medical doctor, 14.1% for civic education teacher, 11.1% for social studies teacher. In comparison, 9.3% of the parents preferred home economics teachers to handle the teaching of sexuality education in secondary schools. This result suggests that parents seem to prefer health

education teachers, biology teachers, and the school guidance counsellor towards handling sexuality education in secondary schools.

There is no significant influence of parents' gender, level of education, and location on their perspective of a child's sexual education.

Table 4. Influence of parents' gender, level of education and location on their perspective of child's sexual education

	Only male children		Only female children		Both male & female		$\chi^2(2)$
Sources	**n**	**%**	**n**	**%**	**n**	**%**	
Gender							
Male	23	7.3	39	12.4	252	80.3	8.577*
Female	14	2.9	61	12.6	411	84.6	
Education							
No formal education	3	7.3	9	22.0	29	70.0	8.861
Pry/Secondary	23	5.4	58	13.6	347	81.1	
Tertiary	11	3.3	33	10.0	287	86.7	
Location							
Rural	16	4.9	56	17.1	256	78.0	10.941*
Urban	21	4.4	44	9.3	407	86.2	

*P<.05

Results in Table 4 showed that gender, ?2 (n = 800) = 8.577, p<.05 of the parents and location, ?2 (n = 800) = 10.941, p<.05 significantly influence their perspective of child's sexuality education whereas, parents' level of education, ?2 (n = 800) = 8.861, p>.05 had no significant influence on which of the child in terms of gender should be exposed to sexuality education in the secondary schools.

Discussion

The study found that the majority (82.9%) of the parents preferred both male and female children to be taught sexuality education; nonetheless, some parents were still of the opinion that such education should be restricted to only female children (12.5%), and only male children (4.6%). This implies that not all parents are on the same page regarding whose child concerning gender, should have access to sexuality education in schools. The finding of the current study corroborated with Adogun and Nwafulume (2015) in terms of widely accepted parents that sexuality education is beneficial to both male and female children. However, this is found contrary to the outcomes of Shi et al., (2022) study in which sex education is considered more important for female children, and that of Odebode, (2019) in which parents preferred only male children. Previous research have identified religious and cultural beliefs as major determinants of parents' disposition to sexuality education among children (Raising, 2003; Ohi, 2016; Mukoro, 2017; Wangamati, 2020).

Concerning parents' disposition towards the embracement of school-based sexuality

education in schools, the study found that the majority of the parent participants (82.3%) would encourage teachers to discuss sexuality education with their children in schools. Nevertheless, about 18 percent of the parents opposed such a school-based sexuality education. There is an indication from these findings that parents are beginning to acknowledge that benefits inherent in children having such knowledge and understanding as against the erroneous perception of some parents that children are having to know much about sexuality tend to expose them more to immoral acts such as promiscuity and abortion. This finding is supported by the findings of Smith and Davies (2017) but contradicted the findings of Akpama (2014) and Odebode (2019).

It was also found in the study that parents expressed support that school-based sexuality education should be handled by health education teachers (41.6%), biology teachers (41.0%), and school guidance/counsellors (35.8%) than any other teachers in the schools. 29.4%, 28.5%, 19.1% and 13.9% of the parents respectively supported the school nurse, invited medical doctors, invited parents, and invited trained personnel. This outcome suggests that parents see school-based sexuality education as entirely school affairs that should be handled by relevant school personnel. This outcome has been consistent with previous findings (Onwuezobe and Ekanem, 2009; Hashimoto, et al., 2011; Wanje, et al., 2017; Odebode, 2019).

The study's findings revealed that more female parents would want both male and female children, and only female children to be exposed to sexuality education as against male parents that showed more preference for only male children. Likewise, more urban parents would prefer both male and female children to be taught sexuality education in schools as against rural parents that expressed a preference for only male and female children. Parental level of education has no significant influence on the children's gender preference regarding having access to sexuality education in schools. These findings are in line with previous studies concerning gender difference (Ugoji, 2009; Odebode, 2019) concerning location (Ugoji, 2009) and parental level of education (Akpama, 2014).

Conclusion

The outcomes of the study showed that parents are increasingly embracing school-based sexuality education as appropriate for both male and female children but preferred it to be exclusively handled by relevant teachers within the school setting. Female parents tend to support sexuality education for both male and female children more than their male counterparts and so do parents living in urban centers as against their counterparts living in rural areas. There is still a need for parents to be educated more on the relevance of sexuality education as its advantages by far outweigh its perceived disadvantages. Parents' awareness and education on sexuality education in society should be championed by relevant bodies such as religious, clubs, and professional associations.

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Original Article

Transnegativity based on defensiveness: Attitude functions as predictors of trans attitudes

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Abstract

Katz (1960) proposed that attitudes exist because they serve a function for the individual who holds them. This theory has been applied to attitudes towards gay men and lesbians (Herek, 1986), but work on attitude functions in relation to trans people is scant. The Attitude Functions Inventory (AFI) assesses whether one's outgroup beliefs are held because they reflect: (1) out group experiences (experiential function), (2) the opinions of important others (social-expressive function), (3) one's values (value-expressive function), and/or (4) personal feelings of discomfort evoked by the outgroup (ego-defensive function). Herek's AFI was applied to help better understand the psychological functions underlying transnegative attitudes. Canadian university student participants from 2001 (*N*= 157) and 2014 (*N*= 218) completed the AFI and a Transgender Belief Scale (TBS). Those who based their beliefs on personal anxieties were most likely to be transnegative, as assessed using the TBS. Further, those who were male, exclusively heterosexual, and more religious were the least transpositive. This suggests defensiveness--thought to be a person's response to a psychological threat--might be the psychological basis of a person's trans attitudes. Understanding why people hold the attitudes they do can help guide efforts to foster greater trans acceptance and inclusion.

Key words:
Transnegativity, Transgender beliefs, Ego-defensiveness, Discomfort, Attitude Function Inventory

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Introduction

Transprejudice and transnegativity involve negative valuing, stereotyping, and

discrimination of those whose appearance of identity does not conform to current societal expectations of gender (Winter et al., 2009). Transnegativity is common across various settings (e.g., Cunningham and Pickett, 2018), and trans individuals experience high levels of violence and discrimination (Grant et al., 2011). While discussion about trans issues seems to be increasing, transprejudice is still more prominent than prejudice against gay, lesbian, or bisexual (LGB) people (Cunningham and Pickett, 2018). Despite this, scholarly work on transprejudice and transnegativity is incipient relative to work on LGB prejudices (Warriner et al., 2013).

Research on predictors and correlates of transprejudice forms the basis for experimental manipulation attempts to ameliorate negative attitudes. Some of these manipulations show positive effects--such as reduced discriminatory intentions or more favourable attitudes--as a result of increased exposure to trans people or information about trans people (Case and Stewart, 2013) or from perspective-taking tasks (Tompkins et al., 2015). However, the effects of attitude interventions are inconsistent; after exposure, some studies find no changes (Ridges, 2019), and one subsample saw an increase in discriminatory behaviours after intervention (Case and Stewart, 2013). Thus, attempts to address transprejudice are nascent and would benefit from additional research and development. However, dismantling trans negativity requires a better understanding of its roots; we propose that it is necessary to better understand the purpose that negative attitudes serve for the attitude-holder.

Attitude functions

Katz (1960) originally proposed the functional approach to attitudes whereby attitudes are held because they are thought to serve some psychological function for the individual. Expanding upon this work, Herek (1986) identified four attitude functions related to attitudes toward lesbians and gay men. The *experiential function* is categorized as instrumental in that the attitude helps the individual make sense of their social world; when an attitude serves an experiential function, it is based on past or expected experiences with outgroup members. While the experiential function is instrumental, there are also three symbolic functions (i.e., involving emotional/value-driven responses). The *value-expressive function* is at play when the attitude is thought to uphold or align with cherished moral belief systems held by the individual (e.g., those who value social justice belief systems are likely to eschew transnegativity). When an attitude is adopted from important others around an individual (e.g., when family and/or peers reject/embrace transpeople), this indicates that the attitude serves a *social-expressive function*. Both value- and social-expressive functions are thought to be a means by which individuals express, maintain, or enhance their identity and group membership. Finally, attitudes may be formed in reaction to self-relevant threats; this is the *ego-defensive function*. In the case of gender minorities, the existence of trans individuals may be perceived as a threat to one's identity (e.g., trans people may contradict beliefs about gender expression, challenge the gender hierarchy, or lead one to contemplate their own gender identity; see 'precarious manhood' for men in particular (Vandello and Bosson, 2013)). In short, different psychological functions could underlie the same attitude.

Researchers have used this theoretical framework to investigate attitudes toward lesbians and/or gay men (Franklin, 2000; Hans et al., 2012; Meaney and Rye, 2010). Meaney and Rye found that men were more likely to form homonegative beliefs based on ego-defensiveness and that, across genders, this was the most predictive function of attitudes toward lesbians and gay men.

Similarly, Ciocca et al. (2015) found defensive styles predictive of attitudes toward homosexuality. Franklin found that the ego-defensive function was the only function that differentiated non-assailants from those who had physically assailed or orally taunted gay men/lesbians.

Research regarding the functions of trans attitudes, however, is scant. Willoughby and colleagues (2010) explored this topic but did not use Herek's Attitude Function Inventory to measure attitude functions; instead, they used pre-existing psychological instruments to represent the different attitude functions (e.g., Religious Fundamentalism and Right-Wing Authoritarianism scales to represent value-expressiveness; Rokeach's moral dogmatism measure to represent social-expressiveness). They found that their proxy measure of ego-defensiveness (i.e., Herek's (1987) Attitudes Toward Gay Men Scale replacing gay men with gender non-conformists as the target), as well as value- and social-expressive measures significantly predicted transnegativity (Willoughby et al., 2010). However, this was not a direct test of the role of attitude functions in relation to transnegativity, as no direct measures of attitude functions were used. Other research has established that threats to identity-particularly gender--related identity--are predictive of more negative trans attitudes (Brassel and Anderson, 2020; Ching, 2022; Vandello and Bosson, 2013) lending additional indirect support to the idea that defensiveness may underlie transnegativity.

Understanding the functions of trans attitudes is crucially important to understand how best to intervene and counteract transprejudice. For example, contact with gender and sexual minorities has been shown to reduce negative beliefs about these groups; this type of intervention may address the experiential function (Paluck et al., 2019; Tadlock et al., 2017). One experimental study showed that different messages are more effective in altering beliefs held for value- versus social-expressive reasons (DeBono, 1987). For example, should the social-expressive function drive transnegativity, an intervention in which respected others express transpositive attitudes may be most appropriate. Katz (1960) wrote that "self-insight" is important when the ego-defensive function is driving the attitude. Thus, exploring the attitude functions behind transprejudice may indicate the optimal route(s) for intervention.

The current study

The current study is a direct investigation of attitude functions in relation to trans attitudes. Using two university samples, this correlational study used Herek's Attitude Function Inventory to investigate the relationship of attitude functions with a measure of trans attitudes and beliefs. Key demographic characteristics of the social perceiver (participant) were also considered in the prediction of trans attitudes, as men and women differ in their attitudes toward sexual and gender minorities (Glotfelter and Anderson, 2017), and there may be different underpinnings of men and women's trans attitudes (Nagoshi et al., 2008; Norton and Herek, 2013). We hypothesize that the Attitude Functions Inventory scales will add predictive value above and beyond that of the gender of the perceiver; additionally, based on the current literature pointing to identity threat as playing an important role in transprejudice, we expect that the ego-defensive function will be particularly predictive.

Method

1. Participants

This study was conducted using two samples of participants: a contemporary sample (most relevant to current trans issues; *N*=214, data collected in 2014) and a historic sample

(included for historic relevance and to help establish the replicability of the findings; *N*=157, data collected in 2001). Across samples, participants were students enrolled in a psychology course at a mid-sized Canadian university and received course credit for voluntary participation. On average, participants in both samples were young (average age=19.6 and 19.4 years); the majority were female (73% and 61%); and only slightly or not-at-all religious (59% and 43%, respectively). The religiosity item was strongly correlated with Altemeyer and Hunsberger's (1992) Religious Fundamentalism Scale (Rye and Underhill, 2020). Ethnicity was only available for the contemporary sample, who were primarily White (50%) or Asian (34%). The contemporary sample was more sexually diverse, with 69% rating themselves as exclusively heterosexual compared to the historic sample, 92% of whom rated themselves as exclusively heterosexual.

2. Materials

The Transgender Belief Scale (Rye & Elmslie, 2001; Appendix-A) is a 21-item measure used to assess opinions, ideas, and beliefs vis-à-vis trans individuals (e.g., [Trans people] "…should have the same rights as everyone else in society"; "…pose a threat to society's morals and values") on a 7-point Likert scale (items averaged; possible range= 1-7, higher scores indicate more transpositivity). The Transgender Belief Scale (TBS) demonstrated strong internal consistency ($\alpha_{contemporary}$=.91; $\alpha_{historical}$=.92).

The Attitude Function Inventory (AFI) is a 10-item instrument measuring the sources to which people attribute their attitudes (Herek, 1987). Participants respond to AFI items on a 7-point Likert-type scale with anchors of "not at all true of me" to "very true of me" (possible range=1-7). The internal consistency of scales in each sample was as follows: $\alpha_{experiential\text{-}contemporary}$= .77; $\alpha_{experiential\text{-}historic}$= .73; $r_{social\text{-}contemporary}$= .53; $r_{social\text{-}historic}$= .53; $r_{ego\text{-}defensive\text{-}contemporary}$= .62; $r_{ego\text{-}defensive\text{-}historic}$= .63; $r_{value\text{-}contemporary}$= .27; $r_{value\text{-}historic}$=.20. Herek (1987) developed the AFI after coding the themes found within essays by participants justifying their feelings about gay men and lesbians. His cluster analysis supported a four-scale structure, reflecting the experiential (e.g., "my opinions about [trans people] mainly are based on my personal experiences with specific [trans] persons"; 4 items), ego-defensive (e.g., "my opinions about [trans people] mainly are based on the fact that I would rather not think about [trans]"; 2 items), social-expressive (e.g., "my opinions about [trans people] mainly are based on learning how [trans people] are viewed by the people whose opinions I respect most"; 2 items), and value-expressive (e.g., "my opinions about [trans people] mainly are based on my moral beliefs about how things should be"; 2 items) functions. Other studies have used the AFI (Barron et al., 2008; Franklin, 2000; Hosseinzadeh and Hossain, 2011), or variations thereof, and correlations between the AFI scales and related constructs provide evidence for convergent validity. Evidence of the distinctiveness of the AFI scales has been indicated by low inter-scale correlations (Barron et al., 2008; Meaney and Rye, 2010).

3. Procedure

Participants completed demographic measures and were given the TBS, followed by the AFI. These materials were embedded in a larger questionnaire which included other measures and addressed multiple research questions (Rye et al., 2019; Rye and Underhill, 2020). The study was conducted in small group settings and administered by student research assistants. Participants were aware of the sexual nature of the study at recruitment. Informed content and debriefing procedures were employed.

Results

1. Descriptive statistics and sample comparisons

1.1. Trans attitudes

For contemporary and historic samples, the average TBS scores were in the favourable direction (above the scale midpoint). Inspection of the TBS histograms (Appendix B) indicated that the contemporary sample had a slightly positive skew, whereas the historic sample demonstrated a bell curve.

A 2 (participant sex) x 2 (sample) ANOVA indicated a main effect of participant sex whereby women were more transpositive than men on the TBS (M_{women}=5.00, sd=.99 vs.M_{men}=4.27, sd=1.12; F(1,369)=32.66, p<.0001, η_p^2=.08). There was also a main effect of sample such that the contemporary sample was more transpositive than the historic sample (Table 1). There was no significant interaction of sample and participant sex.

1.2. Attitude functions

Across samples, participants did not endorse that their attitudes were based on the ego-defensive, experiential, and social-expressive functions (i.e., the average response was in the "not characteristic of me" end of the response scale). Across samples, participants endorsed that their trans attitudes were based on their value systems (i.e., average response near "slightly true of me"). ANOVAs indicated that the samples did not differ significantly in their ratings of the experiential and value-expressive functions, whereas the contemporary sample denied social-expressive and ego-defensive functions more strongly than the historic sample (Table 1). While significant, the effect size of the social-expressive sample difference was negligible (η_p^2=.02). The historic sample endorsed the ego-defensive function more than the contemporary sample, with a modest effect size (η_p^2=.07). While both samples produced scores across the entire scale range, 40% of the contemporary sample entirely denied (i.e., scored a "1") that the ego-defensive function underlies their trans attitudes. In contrast, only 16% of the historic sample did the same.

A sample by sex multivariate ANOVA was conducted for the attitude functions. There was one significant but the weak main effect of sex: women denied the ego-defensive function more than men (F(1,363)=7.29, p<.01, η_p^2=.02; M_{women}=2.60, sd=1.66 vs. M_{men}=3.24, sd=1.78). This could be described as men endorsing the ego-defensive function more than women; however, this characterization would be disingenuous because both are largely *denying* (i.e., "this is not characteristic of me") the function. There was a weak but significant univariate crossover interactive effect of sample and participant sex for the experiential function only (F(1,363)=6.66, p=.01, η_p^2=.02), such that men denied the experiential attitude function more in the older sample ($M_{historic}$=2.71 vs. $M_{contemporary}$=3.19) while women denied it more in the more recent sample ($M_{historic}$=3.15 vs. $M_{contemporary}$=2.80). While these effects (i.e., participant sex for ego-defensive function and interaction of participant sex and sample for experiential function) were significant, they are negligible (i.e., both η_p^2=.02).

In short, while there were multivariate differences in attitude functions (F(4,360)=7.18, p<.0001, η_p^2=.07), participant sex (F(4,360)=3.58, p<.01,η_p^2=.04), and their interaction (F(4,360)=2.66, p<.05, η_p^2=.03), the univariate tests were generally non-significant, or significant but inconsequential. There was modest evidence that the contemporary sample denied the ego-defensive attitude functions more than the historic sample.

Table 1. Means, Standard Deviations, and Univariate Analysis of Variance for Trans Attitudes and Attitude Functions by Sample.

Measure	Contemporary Sample		Historic Sample		Univariate test of difference *(df) F*	η_p^2
	M	SD	*M*	SD		
TBS	5.15	0.97	4.24	1.03	(1,369)=57.60***	.14
AFI- Experiential	2.89	1.42	2.98	1.44	(1,366)=0.31	.00
AFI-Value-Expressive	4.98	1.58	4.77	1.45	(1,366)=1.73	.01
AFI-Social-Expressive	3.30	1.61	3.78	1.65	(1,366)=8.04**	.02
AFI-Ego-Defensive	2.41	1.60	3.34	1.74	(1,366)=28.43***	.07

Note. TBS= Transgender Belief Scale.
***p*<.01. ****p*<.001.

Table 2. Zero-order correlations of the Attitude Functions and Transgender Belief Scale

	TBS	Social-Expressive	Value-Expressive	Experiential
Ego-Defensive	-.69***/-.72***	.31***/.38***	-.21**/.14	.36***/.29***
Men	-.68***/-.74***	.57***/.49***	-.08/.19	.27*/.38**
Women	-.67***/-.72***	.26***/.31***	-.26*/.11	.37***/.26*
Social-Expressive	-.20**/-.24***	--	.02/.14	.38***/.34***
Men	-.48***/-.26*		-.07/.11	.35***/.31*
Women	-.15/-.26***		.04/.16	.41***/.36***
Value-Expressive	.15*/-.15		--	-.19**/-.11
Men	.16/-.19			-.13/-.15
Women	.15/-.13			-.22**/-.19*
Experiential	-.27***/-.11			--
Men	-.26/-.15			
Women	-.24***/-.17			

Note: Contemporary sample (*N*=212-216; n_{men}=56, n_{women}=155-158) correlations/historic sample (*N*=156; n_{men}=61, n_{women}=95) correlations. TBS=Transgender Belief Scale.
**p*<.05. ***p*<.01. ****p*<.001.

2. Attitude functions as predictors of trans attitudes

2.1. Correlations

The AFI scale intercorrelations were generally weak, around *r*=.35 or lower (Table 2). For both samples and across genders, the ego-defensive attitude function was strongly related to the TBS (i.e., *r* around -.70). No other AFI scale was as strongly nor consistently related to trans attitudes. Greater denial that attitudes were based on ego-defensive concerns corresponded with more positive trans attitudes. The social-expressive attitude function was the next most strongly related (i.e., *r* around -.20). There were no consistent sex differences in the relationship between attitude functions and trans attitudes.

2.2. Multiple regression analyses

Hierarchical multiple regression analyses were conducted for each sample. The TBS was regressed upon the demographic characteristics of self-reported participant sex, sexual orientation, and religiosity on the first step and the four AFI scales on the second step (see Table 3). Results were almost identical for the two samples: participant sex, sexual orientation, and religiosity were significant predictors of trans attitudes, collectively accounting for modest amounts of variance (adjusted R^2s=.26 and .27). After the AFI scales were entered on the second step, these demographic variables remained significant, while the addition of the AFI was also significant. The ego-defensive attitude function was strongly predictive of trans attitudes, explaining approximately an additional third of TBS variance beyond the demographic variables. No other attitude function was a significant predictor of trans attitudes.

Discussion

This study sought to explore the attitude functions that were most related to trans attitudes across historic and contemporary samples. In just over a dozen years, our cohorts shifted their trans attitudes--as measured by the TBS--from neutral to favourable on average. This is consistent with favourable changes in attitudes toward trans people reported in an overlapping six-year period (2005-2011; Flores, 2014). Flores concludes that longitudinal lesbian and gay attitude change can be attributed to cultural shifts rather than a generational replacement or cohort differences; this likely extends to positive trans attitude change. In our study, participants were predominantly young, well-educated, and women - all of whom are more likely to be positive toward trans people (Morgan et al., 2020); thus, the positive attitudes observed may be due to the nature of the samples. However, this change gives hope that the overall orientation toward transpeople has and will continue to improve with time.

As expected, participant sex was an important predictor of transnegativity in our study, with men being more negative than women. This is one of the most reliable findings in the literature on attitudes towards sexual and gender minorities and gender issues (e.g., Norton and Herek, 2013; Moss-Racusin and Rabasco, 2018; Willough by et al., 2010). Recent literature posits that trans individuals pose more of an ideological threat to men than women ("gender-related self-esteem", Brassel and Anderson, 2020 or "precarious manhood", Vanello and Bosson, 2013). Norton and Herek (2013) suggested that attitudes toward trans people might be determined by a value-expressive function for women but an ego-defensive function for men. However, our direct test of the role of attitude functions finds that ego-defensiveness was overwhelmingly and robustly important for both men and women. This is consistent with findings that men and women show more negative trans attitudes after receiving threatening information about their gender belonging (Konopka et al., 2021). What exactly it is about trans people that is

Table 3. Hierarchical regression analysis for participant sex and attitude functions as predictors of the Transgender Belief Scale

	Contemporary Sample					
	TBS					
	Model 1			Model 2		
	B	*SE B*	ß	*B*	*SE B*	ß
Constant	2.77	.29	--	4.41	.34	--
Participant Sex	.63	.13	.29***	.40	.11	.18***
Sexual Orientation	.36	.09	.25***	.20	.07	.14**
Religiosity	.22	.04	.30***	.16	.04	.22***
Ego-Defensive				-.35	.03	-.58***
Social-Expressive				-.02	.03	-.03
Value-Expressive				.01	.03	.01
Experiential				.02	.04	.04
Adjusted R^2		.26			.56	
(df)					(4,203)	
F change					35.71***	
(df)		(3,207)			(7,203)	
F		25.33***			38.54***	
	Historic Sample					
	TBS					
	Model 1			Model 2		
	B	*SE B*	ß	*B*	*SE B*	ß
Constant	1.68	.36				
Participant Sex	.59	.15	.28***	.47	.11	.22***
Sexual Orientation	.71	.20	.25***	.43	.15	.15**
Religiosity	.27	.05	.35***	.14	.04	.18***
Ego-Defensive				-.37	.04	-.63***
Social-Expressive				.01	.04	.01
Value-Expressive				-.02	.04	-.03
Experiential				.02	.04	.02
Adjusted R^2		.27			.61	
(df)					(4,147)	
F change					34.03***	
(df)		(3,151)			(7,147)	
F		20.30 ***			35.76 ***	

TBS=Transgender Belief Scale. All VIFs < 1.4, Tolerance statistics >.71, Durbin- Watson = 2.04 for both analyses.

*p<.05. **p<.01. ***p<.001.

threatening may vary for women and men; some predictors of transnegativity and homonegativity are shared between men and women, whereas others are unique to one gender (Kanamori and Xu, 2022; Warriner et al., 2013). It is possible that different identity threats are evoking the ego-defensive attitude function for men and women (cf. Conlin et al., 2021); this is a worthy candidate for future research.

Additional demographic predictors of sexual orientation and religiosity were predictive of trans attitudes. Sexual minorities have been shown to be more favourable toward other minorities (Thorpe and Arbeau, 2020), perhaps due to shared stigmatization experience (Craig and Richeson, 2016). In contrast, Scandurra et al. (2017) did not find sexual orientation predictive of transphobia when other socio-demographic variables were considered. Religiosity measures, however, are often predictive of trans attitudes (Kanamori and Xu, 2022; Tadlock et al., 2017; Scandurra et al., 2017; Warriner et al., 2013) and might reflect overall conservatism--liberalism. Hone et al. (2021) indicate that conservative moral judgement regarding unconventional or stigmatized sexuality is at the heart of religious identity.

Regardless of demographic predictiveness, the ego-defensive attitude function strongly predicted trans attitudes. Consistent with prior research finding a relationship between the ego-defensive attitude function and attitudes and behaviours toward gay men (Barron et al., 2008; Franklin, 2000; Meaney and Rye, 2010) participants in this study were the most transpositive when they did *not* report that they based their attitudes on ego-defensiveness. This is consistent with research suggesting ego-defensiveness is a strong predictor of transnegativity when measured indirectly (Willoughby et al., 2010). It is also congruent with the literature on *contact apprehension*--the discomfort or anxiety associated with being in close contact with those of minority status. McCullough et al. (2019) found that trans-relevant contact apprehension was the strongest predictor of trans attitudes, more so than right-wing authoritarianism or social dominance orientation. Future research may explore whether contact apprehension relates to (and perhaps is a reflection of underlying) ego-defensiveness. The importance of the ego-defensive function is also consistent with a qualitative study conducted by Hans and colleagues (2012), wherein participants stated that their negative attitudes would be exacerbated if they felt uncomfortable (e.g., if a same-sex person expressed romantic interest toward them). This discomfort may represent a psychological threat (e.g., implications for their sexuality or gender role failure). Similarly, Barron et al. (2008) suggested that gay men symbolize threats to gender or masculinity-related social order. Trans individuals may be perceived as a gender hierarchy threat, producing similar anxiety and insecurity-based psychological response.

Our findings that social-expressive and experiential functions were, on average, *denied* (i.e., rated toward the "not-true-of-me" response scale option) are consistent with Barron et al. (2008). However, when asked to provide a rationale for one's homosexual attitudes, Hans et al.'s (2012) respondents listed contact with a homosexual person (experiential), social justice values (value-expressive), parental influences (social-expressive), religious beliefs (value-expressive), and etiological beliefs about sexual orientation (value-expressive) as their attitudinal sources. Our participants largely denied these aforementioned functions (exception: slightly-endorsed value-expressive). The differing findings may be a function of study design: Hans et al.'s participants were asked to justify their attitudes using a thoughtful reflection, whereas, in the current study, participants may have felt no obligation to do so. This may have

led to differences in the type of processing behind the responses, with Hans et al.'s participants needing to engage cognitively and purposefully and the current study's participants engaging in more automatic or affective responding. In addition, Hans et al. asked participants to self-generate; ego-defensive explanations ("these people make me feel uncomfortable") may be less consciously accessible than concrete reasons ("my attitude is consistent with my value system") or may have been seen as less socially acceptable.

Limitations

The current study helps to elucidate our understanding of the origins of attitudes toward trans people. However, using university samples prohibits the generalizability of the findings to non-students, and the use of a correlational design precludes us from making causal explanations. Future research could continue to explore inducing ego-defensiveness experimentally--for example, like Konopka et al. (2021) did by manipulating gender-threat--and observe the influence on the ego-defensive function and trans attitudes. A strength of the current study is the use of data collected at two different time points, showing consistency in the importance of ego-defensiveness across time.

A major limitation with this and other attitude functions investigations is how attitude functions are operationalized: Herek's (1987) AFI scales consist of only two items each (except the 4-item experiential scale). Willoughby et al. (2010) operationalized attitude functions by using instruments that could underpin attitude functions (e.g., religiosity as a value-expressive function); however, the problem with this approach is that the value-expressive function could just as easily underpin religiosity or a third variable could explain both. To measure ego-defensiveness, Willoughby et al. adapted Herek's attitudes toward gay men (ATG) scale to measure attitudes towards gender non-conformists. The ATG includes defensive items, but also includes civil liberties-based items, conflating defensive reactions and more rights-based cognitive responses. Griffiths and Pedersen (2009) expanded the experiential and value-expressive functions measures to ten and seven items each in their assessment of attitudes toward Indigenous and Muslim Australians; this type of adaptation should be used to assess trans-attitude functions in future studies.

Conclusion

Participant sex, sexual orientation, religiosity, and ego-defensive attitude function were predictors of trans attitudes. Specifically, those who were female, sexual orientation minorities, less religious, and those who denied that they based their attitudes on defensive responses to trans people were the most transpositive. Social-expressive and experiential attitude functions were largely denied--while the value-expressive attitude function was slightly endorsed--these three were not predictive of trans attitudes.

How the attitude functions--ego-defensiveness, in particular--are measured is an important issue. Theoretically, it may be that all attitude functions are not equal. Ego-defensiveness may represent an affective or disgusted response (cf. Kiss et al., 2018), while value-expressive, social-expressive, and experiential attitude sources may be more cognitive justifications of attitudes. Alternatively, ego-defensive attitude functions may determine, mediate, or moderate other functions' relationships with attitudes; however, the simple bivariate relationship among the AFI scales does not support these ideas. In short, the nature of ego-defensiveness and its role in understanding, predicting, and changing attitudes toward sexual and gender minorities needs to be explored further.

Those attempting to ameliorate negative attitudes towards trans individuals can use these findings to hone their approach. As with other sexual and gender minority research, men will generally be more negative than women, so efforts to reduce prejudice should ensure that they include (and perhaps focus on) men. Given that those who are most transnegative are likely to be personally uncomfortable in reaction to trans people, it may be helpful to explore the root of this discomfort. Katz (1960) writes that the antidote to negative attitudes borne of ego-defensiveness involves addressing the person's internal psychological processes. Accordingly, Knight Lapinski and Boster (2001) indicate that information delivery interventions may not work for those who are ego-defensive, as they are likely to use source-discounting techniques when receiving this information. Instead, they suggest role-playing or perspective-taking exercises that may allow these individuals to adopt a different view on sexual and gender minorities. These suggestions are made tentatively as this study is correlational and preliminary in considering what role ego-defensiveness has in transnegativity and consequent prejudice and discrimination.

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Appendix -A

Sex change operations should be covered by government health plans (eg. OHIP).

It would "turn my stomach" if I found out that a woman I know was actually a [trans] person, i.e., had female breasts and a penis.

I can accept the idea of a person wanting to change completely from one sex to the other, i.e., having genital surgery and taking opposite sex hormones.

A man with a penis and female breasts, who dresses and acts like a woman -- is just plain sick.

[Trans] people have the right to expect others in society to be accepting of their situation.

A [Trans] person should be able to keep the same job [he/she/they] had before having sex change surgery.

[Trans] people should not be surprised if they are treated badly by the rest of society.

I can accept the idea of a person wanting to be both sexes, i.e., keeping their genitals but taking opposite sex hormones.

Schools should not hire [Trans] teachers.

[Trans] people pose a threat to society's morals and values.

[Trans] people are more confused about their sexuality compared to heterosexuals and [homosexuals/lesbians & gay men].

[Trans] individuals are no more likely to be sexually promiscuous than any other person.

[Trans] individuals are really just gay and lesbian people who are afraid to admit that they are homosexuals.

I can't understand why anyone in their right mind would want to change their sex.

[Trans] people are more psychologically well-rounded than the average male and female person.

[Trans] individuals have the best of both worlds because they experience both male and female roles.

[Trans] people are more likely to spread AIDS and sexually transmitted diseases compared to heterosexuals and [homosexuals/ lesbians/ gay men].

[Trans] people should have the same rights as everyone else in society.

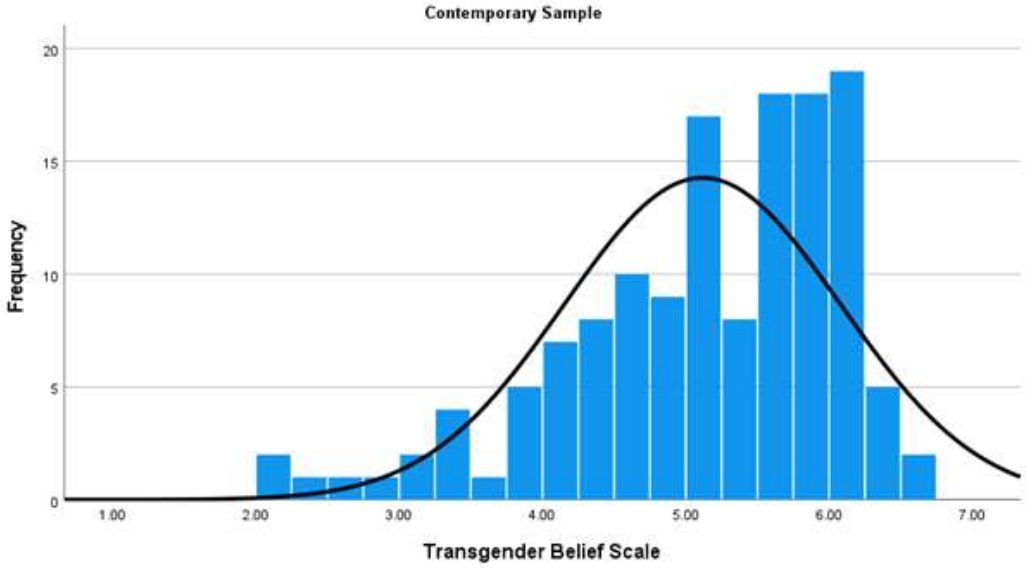
[Trans / transgender] is not a deviant lifestyle but rather a natural variation on gender identity.

[Trans] individuals have more flexible attitudes about sex compared to heterosexuals and homosexuals.

A person's gender identity should not be an issue, rather people should be accepted for who they are, based on personality and other human qualities.

Square brackets are used to denote language that has changed over time and may yet change again (e.g., gender non-binary might be included in future iterations). Terms may also be region specific.

Appendix -B


Contemporary Sample
Frequency
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15
10
5
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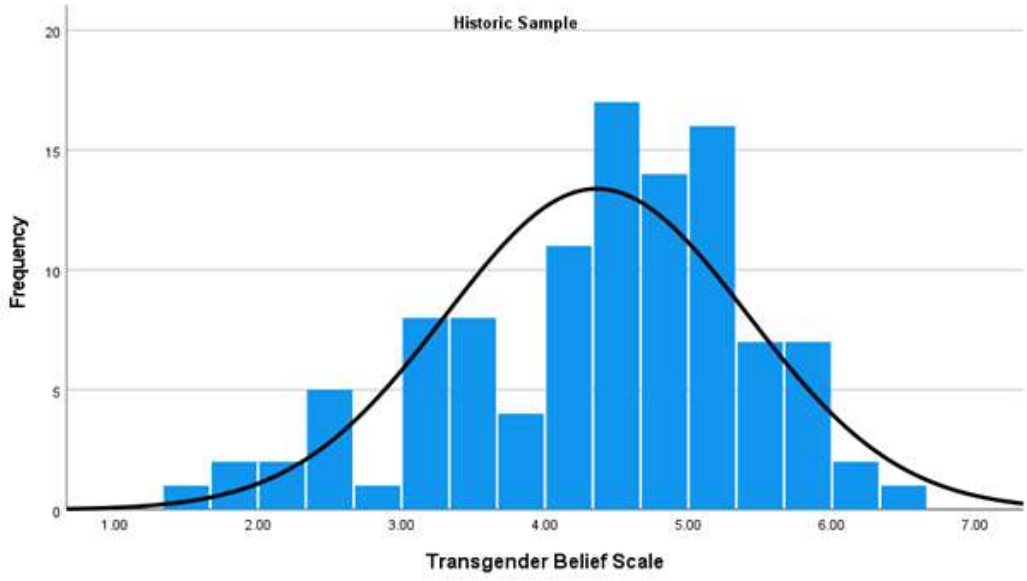
2.00
3.00
4.00
5.00
6.00
7.00
Transgender Belief Scale


Historic Sample
Frequency
20
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Transgender Belief Scale

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Systematic Review

Adolescent sexual behaviour: A systematic review of psychological assessment tools

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Key words:
Adolescent; Sexual behaviour; Systematic review, Assessment

Abstract

Background

Sexual behaviour in adolescents has been explained as a multi-systemic and multi-dimensional concept. While most research perceives adolescent sexual activity as risky behaviour, a significant case has also been made to understand these activities as a healthy normative process.In contemporary literature, a significant increase in adolescent sexual behaviourhas been noted, further emphasizing the need to assess this behaviour more comprehensively.

Methodology

This systematic review identifies assessment tools for adolescent sexual behaviour and evaluates their psychometric properties as well as clinical utility. Relevant publications in English or Hindi from 1990 to 2022 were identified using a comprehensive search strategy in PubMed and ScienceDirect, supplemented by screening citations and references. Furthermore, a 10-point quality judgment criterion was used to evaluate the psychometric aspects of the scales.

Results

Eleven publications were identified and selected for this review, of which ten were self-report measures, and one was an interview-based instrument. Findings indicated that most tools showed only moderate psychometric qualities and had limited clinical utility.

Conclusion

Assessment tools to test sexual behaviour in adolescents have been more focused on risky behaviour, and more diverse and psychometrically sound tools with more robust validation studies are required to study this important area better.

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Introduction

Adolescence is commonly seen as a transitional developmental phase during which individuals beginto consolidate their identities and prepare for living independently by creating personal competence and peer and intimate relations. Viewed from an Eriksonian perspective (Orenstein & Lewis, 2022), this age group between 10 to 19 years (World Health Organisation, 2022) precedes the resolution of intimacy vs. isolation, which, consequently, makes it particularly important from the perspective of sexual behaviour as well.

Sexual behaviour in humans is a broad concept encompassing physical practices, desires, attitudes, experiences, and preferences for sexual behaviour (American Psychological Association, 2022). There is a significant effect of psycho-social attributes on this behaviour as well. More importantly, it is not limited to conception but also includes various processes or actions related to pleasurable sexual satisfaction, for example, masturbation, oral sex practices, etc. Sexual behaviour in adolescents is an even more complex concept influenced by developmental processes across various domains (Sessa, 2016). An adolescent's movement toward a first sexual experience is influenced by myriad factors presented as a Multi-Systemic view (Chen et al., 2010) which include but are not limited to biological sexual maturation, environmental opportunities for engaging in sexual intimacies, sense of self, and self-efficacy,parent and peer values associated with sexual behaviours, and capacity for cognitive reasoning. Further, the socio historical changes of the 21st century have changed the concept of sexual behaviour for adolescents in many ways by including practices such as 'outer course' (non-penetrative sexual behaviours), cyberdating, sexting, etc. (Sessa, 2016). Further, high exposure to sexual content in various media has been associated with cognitive factors such as peer sexual behaviour, expectations about sex, and permissive attitudes about sex in adolescents (Bleakly et al., 2011).

In literature, adolescent sexual activity has been primarily discussed as a developmental risk factor linked to negative health and adjustment outcomes (Vrangalove & Savin-Williams, 2011). It is understood that adolescents are usually poorly informed about how to protect themselves from negative sexual outcomes, which makes them particularly susceptible to unwanted pregnancies, STDs, and even sexual abuse (Laksmi et al., 2007). Hence, adolescent sexual behaviour becomes closely related to health behaviours, which according to the Integrated Model, include intention, social norms,a bsence of environmental constraints, necessary skills, positive attitude, consistency with self-image, positive emotional reactions, and confidence in performing the behaviour (Buhi & Goodson, 2007).

At the sametime, contemporarily, sexual curiosity and exploration have also been recognized as normative and healthy processes during adolescence (Vrangalove & Savin-Williams, 2011). These could, therefore, be developmental assets and could be related to well-being, facilitating teenagers' psychosocial adjustment.

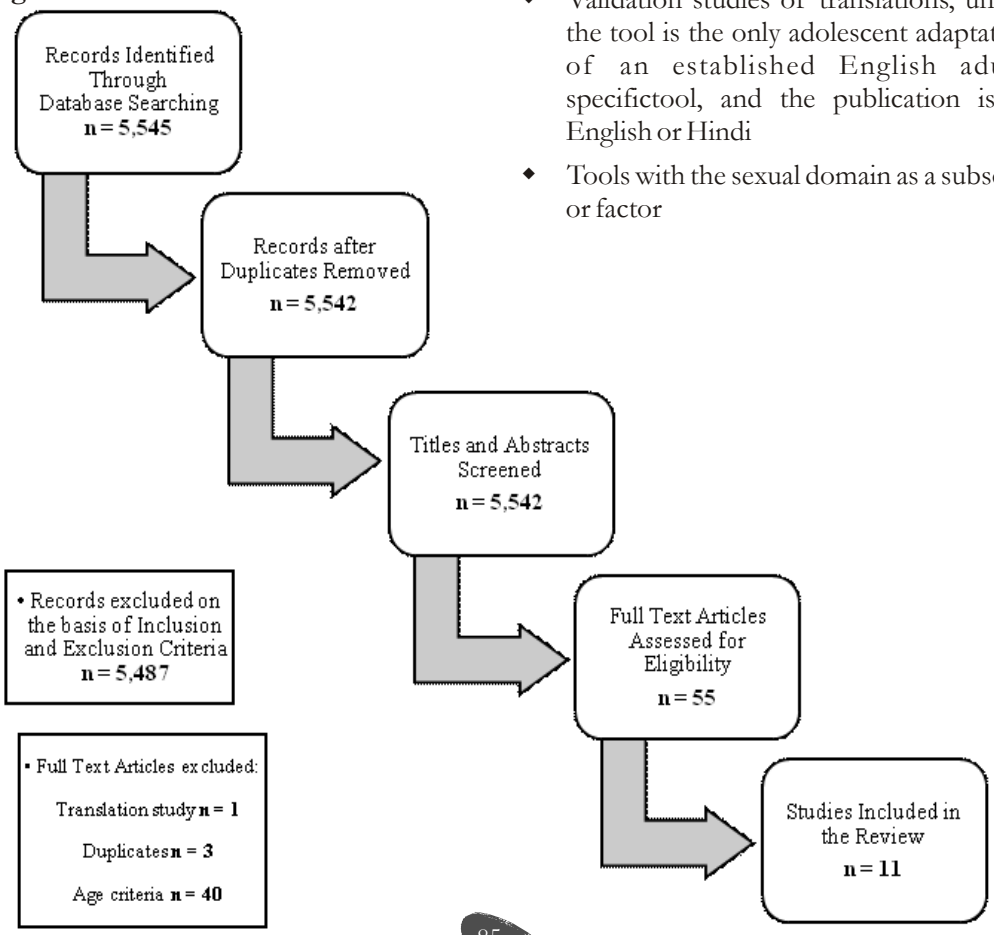
Irrespective of the positive or negative connotation attached to adolescent sexual behaviour, the increase in sexual activity in adolescents (Laksmi et al., 2007) makes it pertinent to assess this behaviour more robustly. Furthermore, given the multi-systemic and multi-dimensional understanding of sexual behaviour in adolescence, it becomes even more important to assess all these various domains to generate a comprehensive understanding. Hence, this study aims to systematically review the psychometric properties of the psychological assessment tools developed to evaluate adolescent sexual behaviour.

Methodology

Study selection

Following PRISMA guidelines, a computer database search of PubMed and Science Direct was conducted for publications between 1990 to 2022, using the following search terms developed based on the domains mentioned in the APA definition of 'Sexual Behaviour': Adolescent, Sexual; Behaviour; Experience; Desire; Attitude; Preference; Porn; Masturbation; Assess; Test; Measure. In addition, citations and references in selected journal articles were also screened. Both authors performed searches independently to limit the risk of bias on 31st July 2022, 17th August 2022, and 28th August 2022.

Figure 1. Search strategy : PRISMA flow diagram



The following inclusion criteria were used to screen relevant publications:

- Publications on validation of assessment instrument/scale adolescent (age: 10-19 years) sexual behaviour, including self-report, behavioural, or interview-based tools.
- Publications in English or Hindi

Further, the following publications were excluded:

- Tools for ages 18 years and above or 12 years and below. Despite the overlap in age ranges, it was decided to exclude these tools as they would not specifically assess complex processes in adolescents. However, tools assessing both adolescents and young adults were included.
- Validation studies of translations, unless the tool is the only adolescent adaptation of an established English adult-specifictool, and the publication is in English or Hindi
- Tools with the sexual domain as a subscale or factor

Our search generated a large number of publications (Figure 1). In the first stage, we screened the title and abstracts to determine the publications' inclusion, which yielded 59 studies. This was followed by screening full-length articles, post which we identified 10 publications suitable for the review.

We used Streiner & Norman's (2015) requirements for health measurement scales for data abstraction and evaluation of assessment scales (Table 1). Abstraction and evaluation were primarily done by the first author. However, to check for reliability and quality, a small part of the data abstraction process (N = 4) was conducted by both reviewers, where the overall agreement was found to be 90%. Identified characteristics of each study were discussed and systematically entered into Microsoft Excel© 2019.

Adolescent Sexual Interest Card Sort given by Hunter et al., (1995) is a 64-item self-report measure that consists of a series of sexual vignettes to rate on a 5-point scale indicating whether the adolescent is aroused by thoughts of engaging in that behavior. The vignettes are further divided into 17 content-related categories like consensual sex with Aggressive sex/ Violence only/ Consensual Sex with Adult female/ Own Age/ Young Female as well as Frottage, Voyeurism, Exhibitionism, and some Filler Items. The overall homogeneity of the scale was good (α = .97). The authors also estimated concurrent Validity using Phallometric Assessment in juvenile offenders. However, the Validity could not be established significantly.

Adolescent and Young Adult Condom Self-Efficacy Scale given by Hanna in 1999 was developed on the theoretical construct of self-efficacy given by Bandura for individuals between 13 to 26 years of age. It is a 14-item self-report measure scored on a 5-point Likert scale (1 = very unsure, 5 = very sure). The construction of items was kept inclusive for all sexualities and ethnicities and was done through a literature review, validity estimation by independent reviewers, and item analysis through item-total correlations. Further, factor analysis showed three self-efficacy factors with good internal consistency - communication abilities related to condom use (α= .77), consistent condom use abilities (α = .72), and correct condom use abilities (α = .78). The overall scale also showed good reliability (α = .85). In addition, the construct validity was established by significant difference ($p < 0.05$) observed between regular and irregular condom users. However, no standardized tool was used to assess this parameter. The validation study was not very robust, and further studies would be required to establish better psychometric properties for this scale.

Sexual Risk Behavior Beliefs and Self-efficacy (SRBBS) scales by Basen-Engquist et al., (1999) is a comprehensive self-report scale developed to assess sexual behaviour and condom use with 22 items scored on a 3 or 4-point Likert scale. A large sample [N = 6213] of adolescents aged 14 to 18 years was recruited for the study. Items for the scale were developed and tested through focus group discussions and further study of construct validity (factorial validity) was carried out using Confirmatory Factor Analysis with the following indices - Chi-square ($P > .15$), RMSEA < .08, Standardised Residuals around 2.58 & Normal distribution of Residuals. This indicated that the model fit the data very well. The factor analysis delineated 8 factors with good internal consistency - Norms about Sexual Intercourse (α =.78), Attitudes about Sexual Intercourse (α = .78), Self-Efficacy in Refusing Sex (α=.70), Norms about Condom Use (α=.84), Attitude about Condom Use (α=.87), Self-Efficacy in Communication (α=.66), Self-Efficacy in Using Condoms (α=.61), and Barriers to Condom Use (α=.73). The study also provided concurrent validity of

Table 1. Abstraction and evaluation criteria

Domains	Score = 2	Score = 1	Score = 0
Origin of Items	Generated specifically for adolescents	Adapted or modified foradolescents	Originated from a scale developed for another population
Number of Participants	N => 100	50 < N < 100	N < 50
Content Validity	Covers all important dimensions (in the reviewers' opinion)*	Covers important dimensions to a moderate extent (in the reviewers' opinion)*	Does not cover important dimensions (in the reviewers' opinion)*
Criterion Validity	High correlates with standardised measure (r > .60)	Moderate correlates with standardised measure (.40 < r < .60) or high correlates with unstandardised measure (r > .60)	Low correlates (r<.40)
Construct Validity (Convergent)	High correlates (r > .60)	Moderate correlates (.40 < r < .60)	Low correlates (r < .40)
Construct Validity (Divergent)	High correlates (r > .60)	Moderate correlates (.40 < r < .60)	Low correlates (r < .40)
Homogeneity	.70 < α < .90	α > .90 or.60<α<.70	α< .60
Inter-rater Reliability	reliability coefficient >.80	.60 < reliability coefficient < .80	reliability coefficient < .60
Test-retest Reliability	reliability coefficient >.80	.60 < reliability coefficient < .80	reliability coefficient < .60
Feasibility	Short scale with instructions and norms	Short scale with some instructions	Complex/ long scale

*Dimensions assessed by the reviewers included: Validity and comprehensiveness of the definition of the construct, clarity of the instructions, grammar and syntax of the items, representativeness of the item pool, and the adequacy of the response format

Assessment Tool [Author]	Dimensions & Scoring	Origin of Items	Sample	Content Validity	Criterion Validity	Construct Validity	Construct Validity Divergent	Homogeneity	Inter-Rater Reliability	Test-Retest Reliability	Feasibility	Overall Score
Adolescent Sexual Interest Card Sort [Hunter et al., (1995)]	13-19 years 64 items 17 factors 5-point Likert Scale	Adolescent specific; Males	N = 38	Covers major domains; Male specific	Phallometric Assessment	-	-	α = 0.97	-	-	Long and some instructions provided	6
		2	0	1	0	-	-	2	0	-	1	
Adolescent and Young Adult Condom Self-Efficacy Scale [Hanna (1999)]	13-26 years 14 items 3 subscales 5-point Likert scale	Adolescent specific	N = 209	Covers all domains	-	Difference between regular and irregular condom users	-	α = 0.80	1	-	Short and some instructions provided	11
		2	2	2	0	1	0	2	1	0	1	
Sexual Risk Behavior Beliefs and Self-efficacy (SRBBS) [Basen-Engquist K. et al., (1999)]	14-18 years 22 items 8 subscales 3/4-point Likert scale	Adolescent specific	N = 6213	Covers all domains	Multivariate analysis for difference: Sexual experienced, Sexual activity in the last 3 months & Condom Use Consistency	Factorial Validity using CFA	-	α = .81 - .87	-	-	Short, some instructions provided, and norms given	13
		2	2	2	1	2		2	-	-	2	
Adolescent Clinical Sexual Behavior Inventory [Friedrich et al.,	12-19 years 27 items 3 subscales 3-point	For adolescents	N = 141	From clinical perspective more domains could be covered	-	Convergent Validity with CBCL and SCL	-	α = .78	-	-	Short and instructions provided. Norms not given.	10

Table 2. Continued.....

Romantic Competence Interview (RCI) [Davila et al., (2007)]	**11-19 years** **Semi-Structured Interview** **5-Point Likert Scale**	**Adolescent-specific questions, theory-based**	**N = 83;** **Females**	**All domains covered**	**Concurrent & Predictive Validity**	**Significant association with ICQ, MAHC & AAS-R**	**No significant association with IPPA**	**n**	**Intra-class correlation = .61 &** **α = .80**	**-**	**Short, Instructions given**	13
		2	2	2	1	2	1		2	-	1	
Adolescent Sexual and Reproductive Health Stigma Scale (SRH Stigma Scale) [Hall et al., 2018]	15-24 years 20 items 3 subscales 3-point Likert scale	Adolescent specific	N = 1080 women	All domains covered	-	Factorial Validity through CFA & Convergent Validity using estimate of Contraceptive Use	-	α = 0.74	-	-	Short, Interpretable and Instructions given	11
		2	1	2	0	2	0	2	0	0	2	
Condom Use Barriers Scale for Adolescents (CUBS-A) [Escribano et al., (2017)]	13-18 years 15 items 4 factors 3-point Likert Scale	Adolescent Specific	N = 629	All domains covered	Difference in Percentage of Condom Use	Factorial Validity using CFA	-	α = .63- .81	-	-	Short, Instructions given	12
		2	2	2	1	2	0	2	0	0	1	
Scale of Myths about Sexuality [Guerra et al., (2018)]	10-19 years 27 items 6 domains 5-point Likert scale	Adolescent Specific	N = 216 + 661	All domains covered	-	-	-	α = .865	-	-	Short, Instructions given	9
		2	2	2	0	0	0	2	0	0	1	

Table 2. Continued.....

Sexual Sensation Seeking Scale (SSSS) [Ballester-Arnal et al., (2018)]	**15-18 years** **11 items** **2 factors** **4-point Likert scale**	**Adapted from Sexual Sensation Seeking Scale developed for Adults**	**N = 1328;** **Cis-gender** **Heterosexual** **Bias**	**Major domains covered, but not all adolescent relevant**	-	**Convergent Validity - Significant association with Sexual Compulsivity Scale & Survey on Sexual Habits and Attitudes**	**Divergent Validity - No significant association with IPPA**	**α = .82**	-	-	**Short, Norms and Instructions Mentioned**	12
		1	2	2	0	2	1	2	0	0	2	
Sexual and Reproductive Empowerment Scale [Upadhyay et al, (2020)]	15–24 years 23 items	Adolescent Specific, robust generation	N = 3,597	All domains covered	-	Association between subscales and sample characteristics	-	α = .880	-	-	Short, Norms and Instructions given	9
		2	2	2	0	1	0	2	0	0	2	
Problematic Pornography Consumption Scale (PPCS-6-A) [Böthe B. et al. in 2021]	M(Age) = 15.41 years 6 items 6 components 7-point Likert scale	Adapted for Adolescent Population	N = 802	Theoretically relevant items	-	Factorial Validity using CFA Convergent Validity through Sexual Desire Inventory-2, frequency of pornography use and frequency of pornography use	-	α = .80, CR = .90	-	-	Short, Interpretable and Instructions Mentioned	11
		1	2	2	0	2	0	2	0	0	2	

the scale through multi variate analyses that indicated the scale's ability to differentiate between individuals who were sexually experienced and those who were not, who were sexually active in last 3 months and those who were not, as well as between consistent and inconsistent condom users. However, these analyses were done based on arbitrary questions, and structured tools were not employed, reducing the analyses' reliability.

Adolescent Clinical Sexual Behavior Inventory given by Friedrich et al., in 2004 is a 27 item self-report measure scored on a 3-point Likert scale (0 = not true and 2 = very true). It assesses a broad range of sexual behaviour and attitude, which have been seen as 3 factors/subscales-Concerns About Appearance ($\alpha = .75$), Sexual Interest ($\alpha = .63$), and Sexual Risk/Misuse ($\alpha = .61$). Principal Component Analysis done by Wherry et al., (2009) estimates its homogeneity at $\alpha = .78$, which is good. Further, convergent Validity showed significant moderate correlations with the Child Behaviour Checklist ($r = .23 - .33$, $p < .05$) and Symptoms Checklist ($r = .27 - .50$, $p < .05$). This indicates the scale's possible utility for the clinical setting. However, further analysis for criterion validity needs to be done to establish the clinical value.

Romantic Competence Interview (RCI) by Davila et al., (2007) is a semi-structured interview that assesses romantic competence in adolescent females (M = 13.5 years) on a five-point scale (5=significant level of competence, 1 = no evidence of competence), with 0.5-point scores allowed. The length of the interview ranges from 20 to 40 mins. It has a strong theoretical basis for the questions that include, but are not limited to, attitudes towards romantic interests, behaviour and decision-making, sources of information, normative experiences and attitudes, and romantic experiences, including physical relationships. The questions are appropriate for adolescents, and the interview coding showed adequate inter-rater reliability with .61 intra-class correlation and $\alpha = .80$. The authors established convergent and discriminant Validity of the interview by analysing and accepting the a-piori hypothesis that RCI will be significant but weakly associated with Interpersonal Competence Questionnaire (ICQ) [r = .20 - .24], Measure of Adolescent Heterosocial Competence (MAHC) [$r = .23$, $p < .05$] and Revised Adult Attachment Scale (AAS-R) [$r = -.19 - .31$, $p < .05$], and will not be significantly correlated with peer security (IPPA). Further, concurrent and predictive Validity was also established through hypothesis testing and administering tests at two points in time one year apart. However, the criteria established (perception of marriage and sexual activity) were not standardized and structured, albeit theoretically sound.

Adolescent Sexual and Reproductive Health Stigma Scale (SRH Stigma Scale) by Hall et al., 2018 is a self-report 3-point Likert scale measure with 20 items developed primarily for female adolescents between 15 to 24 years of age. The conceptualisation of the scale was robust. Items were generated through themes and codes elicited during interviews with 63 women. Further analysis of items was done by researchers independently. However, inter-rater reliability was not mentioned. Confirmatory factor analysis (CFA) was employed to estimate the scale's construct validity, and it showed a good fit of the model to the data based on the following indices - chi-square $p < 0.001$; RMSEA = 0.074; SRMR = 0.065. Three subscales were delineated in the CFA - internalized stigma, enacted stigma, and stigmatizing lay attitudes. In addition, good internal consistency was found for the overall scale ($\alpha = 0.74$) and between-subscale correlations ($\alpha = 0.82$ to 0.93). Further, the study estimated the convergent Validity of the scale concerning contraceptive use, and the authors posited a

possible quantification of reduction in the odds of contraceptive use at 3% with every 1-point increase in SRH stigma scores. However, this estimation was done based on a subjective arbitrary report of contraceptive use and not a standardised scale.

Condom Use Barriers Scale for Adolescents (CUBS-A) by Escribano et al., (2017) was developed for adolescents between 13 to 18 years of age. The study sample included 629 Spanish adolescents. It is a 15-item scale with three response option scales (disagree = 1; neither agree nor disagree = 2; agree = 3). Scale construction was carried out in three phases - an item proposal by 4 independent experts, a pilot study (n = 10), and analysis of psychometric properties. The authors used Exploratory Factor Analysis (EFA) and CFA to establish construct Validity. Four factors were found through EFA with moderate to high internal consistency - Negotiation skills (α=.73), Perceived feelings (α=.81), Negative aspects of condoms α = .63) and Disruption of the sexual experience (α = .78). Further, the model was validated through CFA indices - NNFI = .93; CFI = .95; IFI = .95; and RMSEA = .04. Concurrent validity was also established through difference in percentage of condom use, however, although theoretically relevant, this was an arbitrary non-standardised construct.

Scale of Myths about Sexuality by Guerra et al., (2018) was developed for individuals between 10-19 years of age. It is a 27-item scale with 6 components - Intolerance, Romantic love, Sexist Myths, Generational Myths, Contraception, and Pregnancy - which were scored on a 5-point Likert-type scale (1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree). The scale construction was done through two samples - pilot [N = 216] and final [N = 661]. Items were developed through a brainstorming session and subsequent independent analysis by 23 experts. During the pilot study, item analysis was done using item-total correlation, and the original 69 items were reduced to 27 items. During the final analysis, the scale showed good internal consistency (α = .865). The study did not assess many domains of psychometric properties and would require further analysis.

Sensation Seeking Scale (SSSS) by Ballester-Arnal et al., (2018) is an adaptation of the scale originally given by Kalichman & Rompa in 1995. It is an 11-item self-report measure for adolescents between 15-18 years of age that rates answers on a Likert scale from 1 (not at all like me) to 4 (very much like me). This particular adaptation was made on a large sample [N = 1328] of Spanish adolescents recruited via accidental sampling for the study. The procedure for translating items into Spanish was explained, and a quantitative estimate of the consensus among the translators was also reported (>85%). In contrast to Kalichman & Rompa's unidimensional proposal, two factors-Physical Sensations Attraction (PSA) and New Experiences Seeking (NES) - were found to be a better fit through Exploratory Factor Analysis with weighted least squares and direct oblimin rotation and Confirmatory Factor Analysis by Structural Equation Modeling. The scale showed good internal consistency with Cronbach α (Total scale) = 0.82, and the two factors α (PSA) = 0.76 and α (NES) = 0.82. In addition, significant moderate correlations of sexual sensation seeking with the Sexual Compulsivity Scale [r(Men) = 0.497 & r(Women) = 0.651; $p < 0.001$], and low correlations with a Survey on Sexual Habits and Attitudes assessing the Number of Partners [r(Men) = 0.278 & r(Women) = 0.349; $p < .001$] and Alcohol or Other Drugs Consumption [r(Men) = 0.288 & r(Women) = 0.345; $p < .001$] indicated towards adequate convergent and divergent validity. Moreover, the study also presented acceptable norms with mean scores for men and women, where men scored significantly higher than women.

However, no estimates for construct validity and test-retest reliability were calculated, and the study showed a heterosexual cis-gender bias by lack of inclusion of other genders and sexuality, which is a particularly significant drawback when creating an assessment for sexual behaviours.

Sexual and Reproductive Empowerment Scale developed by Upadhyay et al, (2020) assesses empowerment in the context of Bronfenbrenner's Ecological Model in adolescents and young adults between 15 to 24 years of age. It was developed through six stages. The first three stages focused on the formulation of items by understanding the power dynamics through interviews : formative qualitative research (stage-1), generating domains and item pool using inductive and deductive methods through literature review and group sessions with experts (stage 2), and assessing the clarity of the items through the cognitive interview (stage 3). Hence, considerable focus was given to the origin of items. During the fourth stage, baseline assessment and follow-up administration were done. In the next stage, Exploratory Factor Analysis was carried out, which delineated 7 sub scales - Comfort talking with a partner, Choice of partners, marriage, and children, Parental support, Sexual safety, Self-love, and Sense of future- which showed $\alpha > 0.7$. Further, good homogeneity was observed on the total scale with $\alpha = 0.88$. Moreover, to assess the construct validity, associations of sub scales with sample characteristics were estimated that showed expected directions. However, no standardised tools were used to validate the scale further, indicating the need for future validation studies.

Problematic Pornography Consumption Scale (PPCS-6-A) given by Bothe et al. in 2021 is an adaptation of the PPSC for adolescents. It is a self-report unidimensional scale developed following Griffith's six-component model for addiction rated on a 7-point Likert scale (1 = never; 7 = all the time). An adequately diverse (in sexual orientation and gender identity) sample of 802 adolescents was taken for the validation study. The structural Validity of the scale was established through Confirmatory Factor Analysis where an adequate fit was found (CFI = .982, TLI = .969, RMSEA = .088 [90%CI .069-.109]), and it also estimated good internal consistency ($\alpha = .80$; CR = .90). In addition, convergent Validity was well established based on significant moderate associations with the frequency of pornography use ($r = .48$, $p < .001$) and the frequency of masturbation ($r = .33$, $p < .001$), and low correlations with sexual thoughts ($r = .23$, $p < .001$), sexual arousal ($r = .20$, $p < .001$) and sexual drive ($r = .22$, $p < .001$) which were evaluated using an adapted version of Sexual Desire Inventory-2. In addition, profiles for low-risk and at-risk problematic pornography users were created through latent class analyses.

Discussion

Our systematic review identified 11 studies on assessment tools to test sexual behaviour in adolescents through PubMed and Science Direct. As observed during our search (see Figure 1), very few tools are available for the adolescent population, and the majority of the tools have been developed for adults 18 years and above. Moreover, none of the tools included specific behaviours concerning LGBTQIA++, which creates a further lacuna in assessing sexual behaviour. Given the significant increase in sexual behaviour in adolescents in the present socio-cultural context, it becomes pertinent to create more standardised assessment measures.

As discussed in the earlier sections, adolescent sexual behaviour has historically been associated with negative connotations in research and is primarily seen as risky behaviour. The assessment tools also follow the same trend as 8 out of the 11 tools largely focus on risky and safe behaviours. Only the

RCI (Davila et al., 2007), Sexual and Reproductive Empowerment Scale (Upadhyay et al., 2020), and 2 subscales of Adolescent Clinical Sexual Behavior Inventory (Friedrich et al., 2004; Wherry et al., 2009) aimed to measure the other attitudes and beliefs related to sex that impact one's sexual behaviour. Therefore, there is the paucityof assessment tools to test the positive aspects of adolescent sexual behaviour.

The evaluation of psychometric properties of the identified assessment tools indicates that most of the tools only have a moderate level (score $\leq$ 13) of quality and require more validation studies. The Adolescent Sexual Interest Card Sort (Hunter et al., 1995), Adolescent and Young Adult Condom Self-Efficacy Scale (Hanna, 1999), and Adolescent Clinical Sexual Behavior Inventory (Wherry et al., 2009) showed particularly less robust analysis and low validity. Although Sexual and Reproductive Empowerment Scale received a low score, the item construction was very detailed and systematic, and its factors were relevant, indicating that further studies on the scale could yield promising results. SRBBS (Basen-Engquist et al., 1999), CUBS-A (Escribano et al., 2017), and SSSS (Ballester-Arnal et al., 2018) had the highest score for psychometric properties with robust analysis. However, added reliability and validation studies might be needed for parameters that were not analysed, such as test-retest reliability, etc. The RCI (Davila et al., 2007) was the only qualitative tool identified, and its validation study was sound, indicating the possible utility of the tool to assess multiple domains more comprehensively. Most importantly, none of the tools had an adequate analysis of criterion validity and were also not studied on any clinical sample, due to which their clinical utility cannot be established.

Conclusion

Therefore, it can be concluded that assessment tools to test sexual behaviour in adolescents have been more focused on risky behaviour, and more diverse and psychometrically sound tools with more robust validation studies are required to study this important area better. Further research would be required to develop more robust tools to study healthy adolescent sexual behaviour as well as particular sexual behaviours of the LGBTQIA++.

Limitations

This study had some limitations. Although, according to the AMSTAR guidelines, at least two databases have to be searched to have a Systematic Review (Tawfik et al., 2019), the study would have been much more comprehensive if more search engines were used to identify relevant publications. Furthermore, registration of the protocol on PROSPERO would have reduced the risk of bias even more. We were also unable to calculate the inter-rater reliability for evaluating all of the studies, which would have given a better estimate of the risk of bias.

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Commentary

Child pornography : Behavioural insights on adolescent sexuality

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Abstract

Exposure to the modern internet world has resulted in positive and negative impacts on children, adolescents, and adults. Advancements in technology and exposure to the internet have tremendously contributed to the rise in online crimes involving children. Child pornography is a dreadful offense that can knowingly or unknowingly destroy the mental and physical health of a child involved in it. Watching pornography, showing sexual behaviours, and being curious about understanding sexuality is a part of the normal behaviour of an adolescent. However, these behavioural changes leading to dangerous habits need serious attention. Adolescent sexuality is significantly associated with their habits during development and peer groups. When these habits turn into addictions, clinical measures must be considered.

Key words:
Child pornography, Behaviour, Adolescents, Adolescent sexuality

Introduction

Adolescence is a progression stage where prominent sexual developments occur in every individual when puberty is attained. Fortenberry (2013) described adolescent sexuality as an act of risk-taking which needs wide social measures to control. Physical, psychological, and social aspects have equivalent implications in determining sexual behaviours along with peer pressure, where peers are the powerful socialization agents (Abbot and Treboux, 2001). An adolescent's thought process tends to explore and understand sexuality by various means, which is impacted readily by the peer group. This develops a curiosity among them, encouraging watching pornography leading to addiction and following sexual practices. Hence becoming the victim of sexual abuse is also not uncommon. Ministry of Women and Child Development explains child pornography as any visual portrayal that includes child sexual explicit conduct in a photograph, video, digital or system-generated images identical to

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a genuine child or depicted as a child (India Code, 2019). This addiction can negatively impact the behaviour of adolescents or may act in harmful sexual ways.

Child pornography and adolescent sexuality

The internet era has enabled access to multiple things at the fingertip, which leads to favorable as well as adverse impacts. One of the adverse effects is the exposure to sexually explicit content on the internet triggered by behavioral, social, and physical changes in adolescents. Phishing and hacking are some of the online crimes. Child pornography is considered a dreadful offense happening on the internet. Sexuality is a complicated human behaviour that is impacted by psychological factors, social and cultural norms, appearance, and experiences and is very specific for adolescents (Kar et al., 2015). A cross-sectional study in six European countries has portrayed that male adolescents showed the greater possibility of pornography exposure than females (Andrie et al, 2021). Current studies from the UK illustrated that nearly 53% of children aged 11-16 years are exposed to online pornography, and most of them have seen it before 14 years of age (Quadara et al., 2017).

Different reasons are identified as why individuals participate in child pornography, such as sexual gratification, control, and emotional getaway from real-life scenarios such as depression, anxiety, and loneliness (Pulido, 2014). Children arouse them, they usually consider themselves like children, and feel less threatened by a child (Seto, 2009). The raised amount of child pornography material is a contributing factor which is also passed to peer networks through mobile phones, thus causing other teens to watch pornographies. The statistics by Internet Watch Foundation (2019) showed an alarming trend in child sexual abuse materials compared to 2018, which insisted European Commission prioritize this issue (European Commission, 2020). Considering a teenager, once exposed to any pornography materials, knowingly or unknowingly, they may not be able to stop watching and can make this a habit that keeps on growing along with them, leading to pedophilia (Raising children, 2020).

Child pornography: behavioural changes in adolescents

As part of the healthy development of an adolescent, it is quite normal that they show most sexual behaviors. Parents do not have to raise concerns about such actions. Teenagers may be sexually active with someone of similar age or opposite sex and masturbate in private. However, some behaviours might not be normal or need serious consideration, such as persistently feeling or showing their genitals, watching online pornography often, finding ways to stay alone with younger children, showing sexual content to them, and compelling others to engage in sexual practices (Raising children, 2020). Behavioural science research has indicated that the sexual attitudes of teens as well as sexual behaviours are influenced by pornography exposure (Andrie et al, 2021). Dysfunctional internet behaviour (DIB) is a serious threat to adolescents, where internet pornography was the top searched term (Andrie et al, 2021). Addiction to child pornography may increase the probability of earliest first-time sexual experience, preferably with younger children resulting in child abuse. Such adolescents imagine children as their tools for sexual gratification, and these children will be familiar with them in some ways. Evidence also proposes that pornographies shape sexual practices which are not real, thus, the thoughts are directed as it is normal to behave to a child in the way they have seen in the pornographies (Quadara et al., 2017). The human brain is amazing, and a teen's brain is supersensitive to certain stimuli, where behaviours can become

habitual very soon. Prolonged exposure of an adolescent to child pornography videos can cause their brain to create deep neural pathways which make them eager to watch pornography again, persisting even when they are an adult. Child pornography in every way harms children as well as adolescents both emotionally and physically.

Child abuse and pornography

Online pornography access is effortless nowadays and raises considerations about the health and well-being of children. Children are forced to engage in unwanted sexual activities that later adversely affect them. Adolescents exposed to these pornographies in various ways can be addicted, resulting in dangerous behavioural changes that even harm children (Raising children, 2020). According to the reports by CDC (Center for Disease Control and Prevention), 1 out of 4 girls and 1 out of 13 boys are exposed to some kind of sexual exploitation (CDC, 2022). Child pornography is a way where adolescents find sexual gratification when exposed, which leads them to think that it is normal to behave to a child in a way they have seen. Premature sexual experience curiosity also leads to abuse (Quadara et al., 2017). A crucial factor here is that the abuse victims are known to the predators in one way or another. Other forms of abuse that children may face from adolescents include continuously touching the genitals of children, persistently showing their genitals to children, and using sexually explicit language (Raising children, 2020).

Pornography addiction in adolescents and clinical implications

Studies have reported that pornography usage has various consequences. However, in contrast, possibilities of favorable effects of watching pornography are also mentioned in them. Defining pornography as unhealthy or healthy depends upon who defines it, particularly among adolescents (Farre et al, 2020). When watching pornography is unhealthy, it turns out to be an addiction. From the clinical point of view, it is vital to assess the influence of child pornography in developing adolescent sexuality, associated behaviours, and lifestyle. Adolescents begin to watch child pornography for various reasons, where peer pressure is the most common (Abbott and Treboux, 2001). They may not be able to control their habit, and behaviour changes are seen in them that can even harm the children. For such adolescents, interventions and treatment methods should identify the problem initially and then treat it with the same importance as substance or alcohol addiction. Counseling and behavioural therapies can help them rather than isolating them from exposure to harmful content (Haney, 2006). Clinicians will have to evaluate the correlation between multiple variables and the consumption of child pornography to initialize better preventive measures for problems related to adolescent sexuality.

Conclusion

This article focuses on the behavioural changes in adolescent sexuality due to exposure to child pornography. Various reasons are seen for an adolescent to watch child pornography that can eventually lead to pornography addiction and child abuse. It is not a matter of concern when adolescents watch or show sexual behaviour as it is a part of their healthy development. However, parents must provide their children with proper care and treatment when they show any sort of serious sexual behaviour. While evaluating the relationship between pornography and their habits, clinicians should be able to figure out the actual problem behind it so that clinicians can tackle it effectively.

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Commentary

Changing paradigm of criminalizing adolescent sexuality in India

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Adolescence (between 10 and 19 years) is a crucial phase of life where the transition from childhood to adulthood occurs with significant biological and psycho-social developments (Kar et al., 2015; World Health Organization, 2022). Their sexuality attains new dimensions with increasing sexual desires, curiosity, and experimentation with the opposite gender due to the surge in hormones, especially after puberty. Further, present-day adolescents have easier and instant online access to vast content than their previous generations. Not surprisingly, the influence of cinemas and social media contributed to increasingly prevalent romantic relationships during adolescence which may result in unwanted pregnancies, physical, psychological, and social complications and legal consequences. Also, the ignorance of existing stringent legislation seems to be one of the most common reasons for indulging in such relationships.

Protection of Children from Sexual Offences Act, 2012 (POCSO Act) in India was enacted with the main objectives of protecting children from certain offenses such as sexual assault, sexual harassment, and child pornography and ensuring child-friendly procedures for trial in special courts (Ministry of Women and Child Development, 2012). Although the objectives are clear that children should be prevented from sexual offenses, the provisions may do more harm than good in a country like India, where illiteracy is still at large among the majority of the rural population. It invariably aims to punish the offenders though they are adolescents when involved in consensual sexual intercourse with or without marriage. Adolescent boys are often punished rigorously under the POCSO Act on par with criminals who prey on children. However, sexual intercourse by the former mainly results from romantic

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relationships and is often due to the ignorance of existing stringent legislation. The rigid interpretation of section 3 of the POCSO Act considers consensual, participatory sexual intercourse among adolescents as penetrative sexual assault, punished with a minimum of 10 years to life imprisonment. Hence, the future of both the adolescents is devastated in such circumstances though such relationships and sexual intercourse were innocuous.

Further, section 19 of the POCSO Act mandates the doctors to report to the police if sexual intercourse below 18 years of age is suspected, regardless of marital status, consent, willingness, and voluntariness of sexual intercourse (Ministry of Women and Child Development, 2012). This deprives the adolescents' rights to privacy and confidentiality in treatment. Further, this discourages adolescents from seeking sexual and reproductive health care services such as contraception, antenatal care, medical termination of pregnancy (MTP), and treatment for sexually transmitted infections which provokes counterproductive physical, psychological, and social consequences. Furthermore, this triggers the arrest of the partner or husband of the adolescent and imprisonment, which may culminate in disruption of the family and loss of support to the adolescent mother and the child.

In USA and Canada, the physician has the discretion to decide whether or not to inform the sexual intercourse of an adolescent to legal authorities following a thorough examination of the findings and the facts. The age for sexual intercourse has been set at 14 years, and sexual intercourse below 12 years is strictly a punishable offense. If the physicians elicit any form of the abusive component in the clinical presentation or history after a detailed examination, the same will be informed to the legal authorities (Mykitiuk and Turnham, 2004). However, if the sexual intercourse is voluntary and consensual, and the opposite gender is not grossly older than the adolescent, they may choose to abstain from informing the same. Whereas, in India, the POCSO Act indicates no such differentiation and is silent in this regard.

In light of this, various High Courts in India have been found exercising their power under 482 Cr.P.C (Criminal Procedure Code) to rescue such adolescents under trial and voice their concerns to amend the POCSO Act. Most importantly, the Hon'ble Madras High Court stressed a need to distinguish between sexual acts in an adolescent more than 16 years and sexual assault by criminals on children less than 16 years (Sabari & Anr vs. The Inspector of Police & Ors., Criminal Appeal No.490 of 2018., 2019). Further, considering the ground realities, Madras high court also recommended that the age of the girl child can be redefined to 16 years from 18 years under the POCSO Act, and consideration could be given only when the offender is less than five years older than that of the victim girl in such cases (Vijayalakshmi v. State, 2021 SCC On Line Mad 317, 2021).

Further, one should remember that the parents of the eloped girl often misuse the POCSO Act. The Hon'ble Madras High Court clarified that 'penetration' as expressed under section 3, refers to the unilateral coercive act of the offender on the victim. The consensual sexual intercourse between the two parties would not be a penetrative sexual assault (Ranjit Rajbanshi v. State of W.B., 2021 SCC OnLine Cal 2470, 2021). It is also observed that punishing adolescents of the same age as victims, within the course of the marriage, for voluntary, consensual sexual intercourse does not serve the purpose of the POCSO Act and leads tothe breakdown of families (Shri Teiborlang Kurkalang & Anr vs State Of Meghalaya & Anr., 2022, Vijayalakshmi v. State, 2021 SCC OnLine Mad 317, 2021).

However, one should not forget that these pragmatic judgments may send the wrong message to parents that there will be no

punishment for children and their parents in case of child marriage. This may increase the cases of adolescent marriages and resultant pregnancies with myriad complications. To complicate matters further, the Prohibition of Child Marriage (Amendment) Bill, 2021, was introduced in the Lok Sabha to increase the age of marriage for females from 18 to 21 years (Ministry of Women and Child Development, 2021).

In summary, the adolescents' sexuality is increasingly recognized by India's criminal justice system, which is glaring from various judgments of the Hon'ble High Courts. A comprehensive understanding of the sensitive and complex issues associated with AS (adolescents sexuality) goes a long way in criminal jurisprudence. Further, comprehensive sex education with special emphasis on adolescent sexuality and the physical, mental, and social consequences of sexual intercourse during adolescence, with or without marriage, is the need of the hour. Aggressive sensitization of the POCSO Act and other relevant legislations through social and mass media is crucialin deterring offenses against children and adolescents.

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Commentary

Adolescents and sex education : Role of nurses

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Sexual health, Adolescents, Sex education, India, Mental health nurses

Abstract

Mental health nurses are untapped potential resource persons for community-level activities that can foster change in society. Training of school teachers is important as often sex education classes are skipped at school or not discussed. Parents often cannot provide unbiased and scientific information to their children regarding appropriate sexual behaviours. Therefore, there is a dire need to work on this area, especially in the Indian context, where we discuss sexual health in an unwelcome and embarrassing way.

Introduction

Adolescents deal with many changes in life. There is increasing pressure at all levels across their aspects of life; there is turbulence in the physical body as there is the surge of growth hormones and mental maturation and transition into adult life therefore, the exposure to multiple things and the gradual transition is often not possible (Kar et al., 2015).

Puberty is a time when the physical body starts to mature, and children grasp the concept of their sexuality, but during this time, their brains are still very impressionable, and they can be influenced and manipulated easily. The lack of sexual education in these times led to incidences that affect them lifelong (Scales, 1991). It is widely known that during adolescence, the children are influenced strongly by their hormones, which can lead to behavioural changes like arguments with parents, peer pressure and high-risk behaviour indomitablecuriosity (Buchanan et al., 1992).

Therefore these changes make adolescents a special group needing targeted interventions. Mental and school health nurses can play an important part in primary prevention of various adolescence-specific issues. However, there is a great gap in the current health care system about the needs of adolescents (Das, 2014; Tripathi and Sekher, 2013). The most important issue is the lack of sex education in the curriculum, which leads to using unwarranted sources of information. This

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contributes to the complication of sexual health and raises the myths and misconceptions that arise during such periods.

Need for age appropriate and un-embarrassing sex education:

According to the latest research, A study conducted among south Delhi girls' in 2007 reported that they do not have adequate knowledge about sexually transmitted infections. More than one-third of the respondents found believed HIV infection was possible to be cured., about half of them believed condoms should not be available to the youth. Almost ½ of the respondents were unsure about the use of contraceptive pills and who could use them (McManus and Dhar, 2008). A study from rural Maharashtra reported that sexuality among adolescents is not acceptable. However, there was reported, bias in the perception, especially for women, it was considered unacceptable for girls to engage in premarital sex, but for men, it was acceptable (Ghule et al., 2007). A systematic review of studies from low-middle income countries reported that countries, where comprehensive sex education is curricular, have better outcomes in terms of knowledge and prevention of Sexually transmitted infections and HIV prevention (Fonner et al., 2014).

Role of mental health nurses

Mental health nurses and school health nurses can play an important part in educating adolescents and school teachers regarding sexual maturation, and safe sexual practices in a comprehensive manner. This holistic education does not disgrace and demean children's curiosity and informs them about sexual health doubts in a de-stigmatizing manner. Therefore training programs and sensitization programs not only for health care professionals but the lay persons can perhaps be very important. Mental health nurses are untapped potential resource persons for community-level activities that can foster change in the society.

Role of school teachers

Training of school teachers is important as often sex education classes are skipped at school or not discussed as the teacher themselves are not equipped with the answers to the questions asked by students. (Fentahun et al., 2012)

Parents and sex education in Indian context

Parents often are unable to provide unbiased and scientific information to their children regarding appropriate sexual behaviours. They often have a negative attitude and unacceptably portray intimacy. This needs systematic and scientific interventions that act at social and community levels to improve misconceptions and misinformation, creating a conducive environment for adolescents to learn about positive sexual health (Ismail et al., 2015; Khubchandani et al., 2014; Nagpal and Fernandes, 2015).

Conclusion and recommendation

Sexual health remains to be a part that is not ideally dealt with in an accessible manner and also acceptable manner. With the rising mental health issues sexual health problems are a burden and a grey area where scientific and effective interventions are lacking. A very important issue needs redressal not only scientifically but also socially. It can be recommended that the health policy level and the education department should work collaboratively to bring about positive sexual health information. The appropriate sexual education during adolescence can bring about changes in various mental health and social issues and also manage issues related to gender and sexuality, sexually transmitted infections, stigma, and appropriate sexual behaviours and relationship problems.

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Review Article

Concept of Brahmacharya in Indian philosophy

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Abstract

Food, sleep, and sex arecommon requirements in animals and humans. Sexual instinct is prevalent in animals and humans equally. Only when one overcomes this instinct and channelizes the urge and the energy in a controlled way is real progress in life possible. As per ancient Indian knowledge, semen or vital juice tones the nerves and brain and energizes the whole human body. By the vow of celibacy, one can preserve his vital force and sublimate it into Ojas (shakti). Rtambharaprajna (true knowledge) comes from preservingveerya (semen). It is only possible by abhyasa (steady practice) for a long period. When men and women are involved in sexual activities for procreation only, then it is the real observance of Brahmacharya.

Key words:
Brahmacharya, Mitahara, Sukra, Tapa, Upastamha, Veerya, Yama

Introduction

Brahmacharya (celibacy) is the control over sexual urges and sex organs. Avoidance of sexual activities physically, mentally and verbally is considered Brahmacharya. It is considered one type of physical Tapas (austerity). Worshipping Gods, Brahmans, and learned persons, practicing cleanliness, simplicity, Brahmacharya and ahimsa are some of the physical Tapas (Das, 2021).

ब्रह्मचर्यं नाम गुप्तेन्द्रियस्योपस्थस्य संयमः (व्यासभाष्य 2.30)

कायेन मनसा वाचा सर्वावस्थासु सर्वदा
सर्वत्र मैथुनत्यागं ब्रह्मचर्यं प्रचक्षते ।। (गरुडपुराण पूर्वखण्ड 238.6)

एतन्मैथुनमष्टाङ्गं प्रवदन्ति मनीषिणः
विपरीतं ब्रह्मचर्यं सेवनीयं सदा वुधैः ।। (दक्षस्मृतिः 7.32)

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देवद्विजगुरुप्राज्ञपूजनं शौचमार्जवम् ।
ब्रह्मचर्यमहिंसा च शारीरं तप उच्यते ।। (गीता 17. 14)

Any sexual act dispirits the nervous system and results in loss of energy. Excessive sexual intercourse drains energy enormously. According to Ayurveda, veerya (semen) is blood's purest and most concentrated essence. Out of forty drops of blood, one drop of semen is manufactured. The three factors, mana (mind), prana (breath), and veerya (semen) are interlinked with each other, which are like three pillars of Jivatma (individual soul). We can control one of these three factors by controlling the other two factors. By restraining prana, the movement of the mind and veerya is restrained (Sivananda, 1997).

आहारनिद्राभयमैथुनं च सामान्यमेतत्
पशुभिर्नराणाम् । (नरसिंहपुराणम् 15.13)

Brahmacharya has two components: 'Brahma' (the absolute, eternal, supreme God) and 'Charya' (to follow). So Brahmacharya is a lifestyle adopted to attain the ultimate reality. It leads to the conservation of shukra dhatu, which is responsible for bala (strength), veerya (semen), yash (fame), and dhairya (patience). These qualities assist higher faculty like prajnya (intellect), leading to correct decision-making power. A healthy state of mind is achieved with Brahmacharya. (Upadhyay, 2014). Gandhi had described Brahmacharya as a search for Brahma (truth). The commonly accepted sense of Brahmacharya is "control in thought, word and action", of all the senses, at all times and in all places. It is the elimination of sexual desire. Satya (truth), ahimsa (nonviolence), satyagraha (nonviolent resistance) and Brahmacharya are an essential part of Gandhian thought (Lal, 2000). Gandhi tried to educate Indians to practice an asexual life for cultural liberation through the practice of Brahmacharya (Choudhury and Rath, 2022). In the views of Asian sexologists, sexual science was not just a corpus of knowledge about the body and its sexual functions but a method for combating ignorance (Botre and Haynes, 2017).

Brahmcharya in Yoga

Brahmacharya is one of the Yamas (self-discipline). Yama is one of the different limbs of Yoga described in various classical texts such as Patanjali Yogasutra, Vedanta Sara, and Aparokshanubhuti. Yamas are those restrictions that are required for self-discipline in life. Controlling the Indriyas (senses) while realizing that everything is Brahman (universal soul) is called Yama. It should be practiced again and again. Different types of Yamas are described in various Samhitas like Trsikhobrahmana Upanisad, Varaha Upanisad, DarsanaUpanisad, Sandilya Upanishad, Manadala Brahmana Upanisad, Patanjali Yogasutra, Hatharatnavali and Yogayanjyavalkya (Das, 2021).

शरीरसाधनापेक्षं नित्यं यत् कर्म तद्यमः । (अमरकोश: 2.49)

सर्वं ब्रह्मेति विज्ञानादिन्द्रियग्रामसंयमः ।
यमोऽमिति संप्रोक्तोऽभ्यसनीयो मुहुर्मुहुः ।। 104 ।।

Brahmacharya can be physical, mental, and verbal (Sivananda,1997). The Astanga Brahmacharya (abstinence from eight types of sexual activities) are -remembering the opposite sex (mental), talking a lot about the opposite sex (verbal), amorous activities (physical), looking at him or her (physical), talking to him/her secretly (physical), mental resolution to do the sexual act (mental),

endeavour (physical), the accomplishment of the act (physical). Thus, abstention from all these activities is the observance of the complete Brahmacharya (Das, 2021).

ब्रह्मचर्यं सदा रक्षदष्टधालक्षणं पृथक् ।
श्रवणं कीर्तनं केलिः प्रेक्षणं गुह्यभाषणम् ।।
संकल्पोऽध्यवसायश्च क्रियानिष्पत्तिरेव च ।
एतन्मैथुनमष्टाङ्गं प्रवदन्ति मनीषिणः ।।
विपरीतं ब्रह्मचर्य सेवनीयं सदा वुधैः ।।
(Daksha Smriti 7.31-32)

By the practice of Surya namaskara, Halasana, Sarvangasana, Sirshasana, Nadi shodhana pranayama, Bhastrika pranayama, Ujjayi pranayama, Moola bandha, Vajroli mudra, Ashwini mudra, the Mind and the Prana are automatically controlled. For this, one should have pure thoughts (Saraswati, 2004).

Brahmacharya in Ayurveda

Ahara (diet), Nidra (sleep), and Brahmacharya (celibacy) are the Tri-Upastambhas (three secondary supports) of life. Control of Indriyas (senses) and spiritual bliss conducive to the knowledge of Brahman is included in Brahmacharya (Sharma and Dash, 2011).

त्रय उपस्तम्भा इति आहार: निद्रा
ब्रह्मचर्य चेति (चरक सूत्रस्थान 11.34)

As per Ayurveda, the function of seven Dhatus is Prinana (nourishment), Jivana (supporting life), Lepa (covering the body), Sneha (oleation), Dharan (supporting the body), Purana (filling the bone cavities) and Garbhotpadana (getting pregnancy) respectively (Vidyanath, 2012). The seventh Dhatu is Sukra (semen), the last Dhatu formed out of food. The prior six Dhatus are Rasa, Rakta, Mamsa, Meda, Asthi, Majja. Each Dhatu has its own Dhatwagni (digestive fire) which helps in the formation of the next Dhatu. These Sapta Dhatus support our body and life. Our physical body, the heart and the intellect are nourished by semen (Sivananda, 1997).

A person who is moderate in sexual intercourse lives a long youthful life and becomes good-looking, fair, healthy, strong, and firm in his nerves and muscles. As per ancient Indian knowledge, excessive sexual intercourse produces Sula (colic), Kasa (cough), Jvara (fever), Karsya (emaciation), Pandu (anaemia), Kshya (phthisis), and Aksyepaka (epilepsy).So, it is prescribed that a husband should have sexual intercourse with his wife with a gap of at least three days in all the seasons except in summer, when he should have sex once in fifteen days (Kunjalal, 2012). In ideal situation, a householder can have sexual intercourse with his wife once in a month at the right time to get progeny, not for sexual enjoyment. The husband and wife should have diet regulation, meditation, and observing fasts, religious practices and spiritual practices. They should also observe Swadhyaya by regular study of religious scriptures (Sivananda, 1997). Regular practice of Brahmacharya is essential to the collective social health of a nation (Haynes, 2020).

Sex and food consumption are very intricately related. One who wants to observe brahmhacharya should avoid meat, fish, egg, tobacco, liquor, garlic, and onion. Onion and garlic are considered worse than meat. All kinds of non-vegetarian diets are restricted. One should take a very light diet at night. Heavy dinner is the direct cause of nocturnal emission (Sivananda, 1997). Those who want to follow Brahmacharya should always have Mitahara only. Moderation in the diet is called Mitahara. One should fill half of the stomach with wholesome food, and a quarter of the stomach with pure water. The other quarter should remain free. Description of mitahara is found in Yoga Kundali Upanishad, Hathayoga Pradipika and Gheranda Samhita (Das, 2021).

Benefits of Brahmacarya

One can have immense strength (physical, mental and spiritual) only when he/she practices Brahmacharya perfectly and regularly. Through brahmacharya one gains valor.

ब्रह्मचर्यप्रतिष्ठायां वीर्यलाभः (योगसूत्र 2.38)

One conquers death by Brahmacharya. To conquer death means being liberated. The knower of Yoga conserves sexual fluid. By conserving the sexual fluid, he conquers death. Because falling semen is death and conservation of the same is life.Therefore, one should protect it carefully. Protection of semen depends on the strong mental resolve to do so (Svatmarama, 1998).

एवं संरक्षयेद् बिन्दुं मृत्युं जयति योगवित् ।
मरणं विन्दुपातेन जीवनं बिन्दुधारणात् ॥ H.P. 3.87

चित्तायत्तं नृणां शुक्रं शुक्रांयत्तं तु पौरुषम् ।
तस्मात् शुक्रं रक्षणीयं योगिभिश्च प्रयत्नतः ।। H. P. 3. 89

Conclusion

Most of Indians consider the loss of semen as a threat to individual health. Dhat syndrome (related to semen loss) is considered as a culture-bound syndrome (Prakash et al., 2014). Hinduism always advocates Brahmacharya. Ayurveda, the oldest medical system of practice and the indigenous medical system of India,says that Brahmacharya is highly essential for healthy living and increased life span. Through brahmacharya semen and energy are conserved, increasing the chance of a prolonged life (Skandhan et al., 2021). It is described in Vedas that through Brahmacharya and tapas (austerity), the Devas (Gods) have conquered death (Sivananda, 1997). By the practice of Brahmacharya, sexual energy is transformed into spiritual energy. It is the secret of complete physical health, mental health, and longevity.

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