

Chapter 2

Review of the Literature

This chapter provides an overview of the significance of the present research and details the key constructs of the study: social communication and adolescent reproductive health and well-being. It further highlights the significance of social communication in the current healthcare scenario, identifies the relevance of adolescents in the context of the present research, and discusses the research gaps in the literature and the research rationale.

1.1 The Need for Social Communication in Healthcare

Social communication refers to communication targeted towards a large audience using verbal and non-verbal skills. It conveys information and messages in social contexts and promotes social change and transformation. Originally, social communication was associated with awakening or altering an individual's consciousness, that is, their inner life, which includes thoughts, attitudes, and emotions (Earley, 2002; Smith, 2020). Now, the essential topics of social communication include culture; the cultural and social norms that underlie power and information relationships; persuasion; stereotypes; and the reshaping or negotiation of social and personal boundaries (Tacchi & Waisbord, 2015). As a means for social transformation and change, social communication addresses issues related to social accountability, participation, the state-citizen relationship, and gender. Social communication facilitates two-way communication and allows people to express their thoughts about societal issues, offering individuals the opportunity to voice their opinions on topics that are significant yet suppressed or focused less on.

1.1.1 Significance of Social Communication

Social communication enables individuals to contribute to social change on various societal issues. As a result of its two-way nature, it provides spaces for discussing or deliberating social issues such as development and governance (Kelly & Westoby, 2018), and also encourages alternate discourses, norms, and practices (Tacchi & Waisbord, 2015).

Waller (1999) states that social communication affects individuals' responses to specific stimuli. Individuals exhibit selectivity to stimuli they recognise, subconsciously organising them based on established psychological principles and subsequently attributing meaning to them. This process is inherently subjective because it aligns with individuals' past experiences, expectations, and needs (Mishra & Goswami, 2008). Thus, negative stimuli are less likely to be perceived than neutral stimuli at the same level of exposure. Social judgement theory posits that communication is processed in the context of individuals' perceptions and perceptual defences. An individual's attitude is a filter or framework through which they perceive and evaluate target issues, objects, and phenomena. Attitudes also serve as a reference point for pre-existing attitudes that are stored in memory, accessible to the individual when required (Fitzsimons et al., 2002); however, as a result of perceptual defences, people see what they want to see and do not see what they do not want to see (Mishra & Goswami, 2008). Thus, social communication is important because it works at a metacognitive level among individuals and can significantly impact sustainable behaviour change.

1.1.2 Evolution of Social Communication

Historical evidence for behaviour transformation through social communication can be seen globally in spiritual reformation and freedom movements. Later, social communication transformed and became more inclusive with forms such as street theatre, graffiti, and social ad campaigns (e.g., family planning). Recently, movements such as #MeToo have shown a similar trend of social awakening. Although the medium of communication has constantly evolved, the fundamental principles and purpose of social communication have remained the same. The following sections detail some of the various forms of social communication and how social communication has evolved over the centuries.

1.1.2.1 Edicts of Ashoka. Evidence of social communication related to religious reforms can be found in the Edicts of Ashoka, which constitute the first tangible evidence used to disperse the 'Inscriptions of the Dharma' over a vast tract of South Asia that constitutes present-day India, Pakistan, Bangladesh, Nepal, and Afghanistan (World Heritage Journeys, 2019). These inscriptions detail Ashoka's perspectives on dharma and indicate a sincere effort to address the challenges of a multifaceted and multicultural society. They emphasise moral and social guidelines instead of religious rituals or Buddhist philosophy, and their interpretation depends on the context of universal laws, social order, piety, or righteousness. It is the first

example of social communication that defines the concept of dharma, defined as ‘right behaviour’, ‘good conduct’, and ‘decency towards others’.

1.1.2.2 The Bhakti Movement. Medieval evidence of social communication can be seen in the Bhakti movement, where spiritual figures would use songs and verses to spread spiritual values. Mystics such as Kabir and Lalon Fakir effected a spiritual awakening in society through their poetry and songs. Although the Bhakti movement arose in South India, it spread northwards, flourishing during the medieval period. Similarly, in the past, Brahminism emerged from the Vedic religion and spread from the northwest to the south of the Indian subcontinent in the early 1st millenium BCE; Jainism originated in Northern India in the 7th–5th century BCE and subsequently spread southwards; and Buddhism originated in Northern India in the mid-6th to -4th centuries BCE and subsequently spread to Southeast Asia and China. Interaction on such a large scale could have been possible only through systematic mass communication. A more recent example is the bhajan groups sponsored by the Arya Samaj, where a single narrator performs with a group of musicians. These groups are sometimes used to promote messages about the need for or the importance of fixed commodity prices and honesty in business, a subject introduced in the guise of a story from the Upanishads. The lyrical lectures are a moral story of a king and his kingdom narrated by a sage. In the last statement, the story's outcome is repeated as a song with musical accompaniment, using ragas commonly used to compose bhajans. The narrative verses, accentuated by the music, are followed by a discussion. Intercaste audiences listen to such lectures seemingly with much interest, and it is common for the audience to comment favourably upon the topics or issues discussed. Although the performers of the lectures and songs may be from different religious groups, their overall goal is village upliftment (Guerra, 2020; Gumperz, 1964).

1.1.2.3 Street Plays. Social communication played a significant role in bringing revolutionary reforms during the struggle for Indian independence, when street plays promoted patriotism and triggered a spurt for nationalism, which consequently encouraged social reforms (Banerjee, 2013). As a form, street theatre is intimately connected with folk theatre; however, it encompasses a participatory version of social communication and is not solely a site of artistic expression. The inception of street theatre in the early 20th century was motivated by its role in empowering the working class and fomenting revolution against British colonial rule. Safdar Hashmi was a theatre activist and the founder of Jana Natya Manch: he envisioned street theatre as a means to disseminate political ideologies, advance the cause of communism, and

‘draw the masses of people into the anti-colonial struggle’ (Ghosh, 2007). Street theatre emerged with different aesthetics and became a weapon of social transformation: it spoke about and advocated for the common folk, reflected the turmoil of pre-independent India, and portrayed the prevailing economic conditions.

1.1.2.4 Street Art. In the present-day context, graffiti surged in the early 1980s, characterised by a revolutionary, transformative, and energetic spirit. The messages graffiti convey have spanned entertainment, religion, politics, and social issues, among other themes. Therefore, graffiti is also a type of social communication. Graffiti art is usually found on external surfaces and easily accessible to a larger audience, facilitating its effective use for social communication (Wangui, 2022).

1.1.2.5 Social Advertisements. When the role of advertising in promoting social change is discussed, public service advertisements are frequently the first to be cited. Advertisement campaigns for social causes are examples of impactful modern social communication; they are especially relevant in countries that lack freedom of speech and thought. Present-day advertisements are designed to provoke one to think and elicit positive behaviour change. Traditional advertisements, which usually concern goods and services, are also curated such that they discuss critical issues to promote social change. With the emergence of family planning campaigns, HIV/AIDS awareness programmes with mascots such as Bula Di (Sengupta, 2008), the ‘advertainments’ of Dove (Indermill, 2015), and the message of inclusion in a Tanishq advertisement (Sen, 2021), it is evident that when social marketing is connected with awareness, the link between social communication and traditional behaviour change theory becomes crucial (Lee & Kotler, 2019).

1.1.2.6 Social Campaigns. Movements such as Our Body, Ourselves (The History & Legacy of Our Bodies Ourselves, 2023), #MeToo (<https://metoomvmt.org/>), and the WHO’s Breast Cancer Awareness Month are social communication campaigns that are built on people’s power. The inclusion of technology and social media has made such social communication campaigns more popular, structured, and influential, with significant impact and progress across various causes (Parikh, 2006).

1.1.3 The Need for Social Communication Over Health Communication

As humans, we frequently view our minds and bodies as objects to be manipulated. In doing so, we overlook the significance of personal experiences for psychological problems and instead aspire for behavioural quick fixes and panaceas, consequently ignoring threats to our well-being and health. With the recent crises caused by COVID-19, vital qualities of our inner lives have been suppressed and unconsciously lost because of excessively using strategic and systematic approaches to health communication. This underscores the significance of social communication, which emphasises fostering behavioural change through self-transformation (Earley, 2002).

Presently, the techniques employed for behaviour change predominantly revolve around health-promoting behaviour, characterised by a paternalistic communication design approach that does not cultivate a consciousness of general health and well-being. There is a compelling need to re-evaluate the current intervention paradigms and design approaches that sensitise individuals to health behaviour in a manner that empowers them to assume responsibility for decision making by influencing their attitudes and beliefs.

Several researchers have recognised the importance of self-responsibility and self-management, which are integral components of health promotion strategies. For example, Waller (1999) opposes notions that portray individuals and social groups as lacking the knowledge, self-control, and ability to be adequately responsible for their health. He suggests that attitudes towards sensitive issues should be researched based on the stimuli individuals 'recognise'. The reason cited for doing so is the tendency of individuals to subconsciously organise familiar stimuli per universally accepted psychological principles. Consequently, individuals interpret stimuli (i.e., attribute meaning to them) in a subjective manner aligned with their experiences, expectations, and needs.

More research is needed to design communication models that facilitate a mechanism that develops metacognitive abilities to recognise and analyse stimuli. Frameworks that can integrate the core theories of behaviour change would systematically induce sustainable behaviour modification. Such models should increase awareness among individuals and inform them in a manner that helps them rationalise their choices, become self-reliant, and work towards their well-being.

Furthermore, such a framework must be validated among the target audience while measuring long-term effects. This is crucial because all extant health communication interventions cater to immediate needs. On the contrary, social communication affects core

cognitive processes and has long-term effects. Hence, the current study is designed to make female adolescents aware of their reproductive health and well-being, which is a health situation that they must live with for a substantial period of their life.

1.2 The Relevance of Female Adolescents for the Present Research

Adolescence refers to the transitional period between childhood and adulthood, where future health and life patterns are shaped and established. These transitions are characterised by substantial physical, psychological, and psychosocial changes that include opportunities as well as risks related to one's health and well-being. The behavioural patterns and habits formed during adolescence can influence the life trajectories of young people, subsequently affecting long-term social and health outcomes (Liang et al., 2019; Sawyer et al., 2012).

Historically, societies have tended to emphasise childbearing soon or immediately after marriage. However, in younger generations, these norms have shifted and continue to shift towards delayed childbearing. This notable shift has affected societies globally, consequently expanding the gap between adolescence and marriage, which in turn has increased the gap between marriage and childbearing. Thus, it is no longer appropriate to assume that health services can be delivered to adolescents solely via paediatric or adult reproductive services. This is especially important given that adolescents urgently require accessible, affordable, and quality healthcare for varied reasons (Bearinger et al., 2007; Engel et al., 2019).

In addition, the phenomenon of adolescence is evolving rapidly: the age of puberty onset is decreasing, and simultaneously, mature social roles are being assumed at later ages (Plesons et al., 2019). Fresh insights into the consequent impact on adolescent health encompass the effects of social media, puberty, and brain and physiological development. Future generations of adolescents will navigate adolescence differently than their predecessors, encountering novel obstacles that may affect their health and well-being. Thus, how individuals navigate their adolescent years will profoundly influence their future health as well as their nations' social and economic future.

Both adolescence and young adulthood correspond with significant shifts in health issues and determinants that affect later life. Evidence-based research reveals that precautions adopted in adolescence may mitigate disease risk after middle adulthood (i.e., the age of 45). In essence, the health habits practised during one's teenage and college years can predict the chronic diseases individuals will develop and their ultimate cause of mortality in adulthood (Bundy et al., 2018).

Compared to the past, female adolescents are now likelier to delay marriage as well as their first sexual experience and childbirth. Despite progress overall, there has been unequal progress in issues of adolescent sexual and reproductive health. The prevalence of issues related to reproductive health is also increasing, including general and mental well-being. Simultaneously, research confirms that adolescents have the right to be informed and actively and meaningfully engage in matters affecting their lives (Liang et al., 2019).

Sexual and reproductive health denotes a state of physiological, psychological, social, and emotional well-being for all aspects of sexuality and reproduction, extending beyond the mere absence of frailty, dysfunction, or disease. Achieving optimal sexual and reproductive health for adolescents requires positive approaches to sexuality and reproduction that cover themes such as trust, sexual pleasure, and communication with the aim of promoting adolescents' overall well-being and self-esteem (Engel et al., 2019).

1.2.1 The Shifting Demographics of Adolescents

The global distribution and profile of adolescents has changed significantly: the number of female adolescents amounted to 1.3 billion, comprising 16% of the world's population (UNICEF Data, 2022). The adolescent population of India is over one-fourth of the country's total population, with one in every 10 Indian being a female adolescent (Centre for Catalyzing Change, 2011). Globally, there has been a significant surge in education enrolment at all levels of education. The gross enrolment ratio increased from 56.1% in 1994 to 76.4% in 2016 for secondary school, and it increased from 15% to 37% during the same period for tertiary school. Furthermore, sustained school enrolment for female children has increased the age at first marriage and first sex. In the modern era, adolescents inhabit an increasingly mobile and urban world. In 2019, urban areas were where 56% of the global adolescent population lived, compared to 44% in 1994 (United Nations Population Division, 2022).

In particular, novel communication methods, social media, and knowledge sharing have transformed the lives of adolescents. Although all age groups access social media, roughly 71% of those who are online on social media platforms are 15- to 24-year-olds (UNICEF, 2017). The widespread availability of affordable smartphones equipped with only a handful of core applications or platforms, such as WhatsApp and Facebook, has resulted in increased smartphone uptake in economically disadvantaged countries, especially those in South Asia. These levels of technology penetration are profoundly shifting how adolescents engage with their family, peers, environment, and the world by influencing their learning, communication,

decision making, relationship formation, exploration of their sexuality, and management of their health (Livingstone et al., 2017). Online interventions provide adolescents with opportunities to independently seek information about adolescent sexual and reproductive health through online counselling, informational websites, chatbots, and helplines.

In summary, the global health, social, and demographic changes seen today have given rise to exceptionally positive trends in adolescent development. The advent of and access to new digital communication media has shrunk the world for adolescents, exposing them to new norms and ideas that are reshaping their aspirations. These overarching trends have significantly altered the landscape of adolescent sexual and reproductive health since 1994 (Liang et al., 2019).

1.2.2 The Current State of Reproductive Health and Well-Being

In 2016, more than 250 million adolescents lived in nations burdened by various health-related disparities and issues (Weiss & Ferrand, 2019). Such adolescents face a vast range of health problems, including issues related to communicable, non-communicable, and nutritional diseases; mental disorders; reproductive health; violence; and increased injury rates. More recently, other nutritional health risks have become prominent, as indicated by the 120% increase in adolescents who are obese or overweight (Azzopardi et al., 2019). Obesity and overweight have negative implications for sexual and reproductive health, besides other long-term health issues. Furthermore, excess weight and abdominal fat increase the risk of menstrual abnormalities (Douchi et al., 2002), ovulatory dysfunction, altered endometrial function (DeUgarte et al., 2008), miscarriage (Rittenberg et al., 2011), pregnancy, and perinatal complications (Weiss & Ferrand, 2019).

However, much of the world continues to resist acknowledging and embracing adolescent sexuality. In most situations, adolescent sexuality is perceived as a problem or risk in the context of pregnancy and disease. It is generally deemed acceptable solely within the confines of childbearing after marriage. Paradoxically, female children are often sexualised upon attaining puberty, whereas, in general, discussions about premarital sex are discouraged and abstinence is the sole choice for adolescents (Barker & Heilman, 2018; Chandra-Mouli et al., 2017). Discussions on sexual health that incorporate respectful and positive approaches to relationships, sexual pleasure, and sexuality are overlooked or discouraged despite the potential for greater adolescent engagement with health to enhance care utilisation and the sustainability and effectiveness of adolescent sexual and reproductive health interventions.

Although reproductive cancers generally have a low prevalence among adolescents, breast and ovarian cancers have become more prevalent among female adolescents during the period from 1994 to 2017. Specifically, the global proportion of ovarian cancer, which was 0.08% in 1994, increased to 0.11% in 2017 (VizHub - GBD Results, 2019).

The data from 2016 shows that approximately 38 million female adolescents in developing countries reported being sexually active, which was defined as having had intercourse over a 3-month period. The use of modern contraceptives was reported by only 15 million, indicating that 23 million female adolescents were at risk of unwanted or unintended pregnancies (Darroch et al., 2016). The rate of contraceptive use was 51% amongst sexually active, unmarried female adolescents and 20% among those who were married or in a similar union; furthermore, 41% and 23% of these populations, respectively, had an unmet need for family planning (UNICEF Data, 2022; UNICEF MICS, 2022).

According to estimates by the United Nations Population Division years (2022), the adolescent birth rate has decreased significantly in nearly all countries since the 1990s, declining by one-third. Specifically, it decreased from 34.4% between 1990–1995 and 2015–2020, and is now 42.5 births per 1,000 women aged 15–19. This global decline may be mainly attributable to the remarkable 72.5% decrease in Central and Southern Asia, where the rate decreased from 95.3 to 26.2 births per 1,000 women. India played a central role in this shift, with its adolescent birth rate decreasing from 94.0 to 13.2 births per 1,000 women.

Pregnancy and childbirth complications constitute the primary cause of mortality among female adolescents aged 15 to 19 globally (Global Health Estimates: Leading Causes of Death, 2023). This age group, particularly individuals between the ages of 15 and 17, has heightened maternal health risks compared to slightly older women. These elevated risks stem from a combination of social and biological factors that compound the vulnerabilities experienced by these adolescents.

Compared to older women, adolescents are more susceptible to health issues such as eclampsia, pre-eclampsia, systemic infections, puerperal endometritis (Ganchimeg et al., 2014), stillbirths, preterm births, neonatal mortality, and low birth weight (Althabe et al., 2015). This finding is supported by Nove et al.'s (2014) estimations of maternal mortality ratios per 1,00,000 live births for different age groups: 15- to 19-year-olds at 260, 20- to 24-year-olds at 190, and individuals aged 35 years and above at 710–2,800.

Overall, despite substantial progress both regionally and globally in several aspects of adolescent health, particularly in the realm of adolescent sexual health and rights, there remains

a need to focus on issues that are related to reproductive health and well-being and can offer a holistic understanding of the well-being of a woman's body.

Although the adolescent population is sizeable, their existence is invisible. Despite better access to education and economic opportunities than those in rural areas, urban youth often do not have adequate nutrition, health services, or other support systems that enable them to thrive (IDinsight, 2022). Poor starts in life are associated with poor health, nutritional, and educational outcomes, leading to future health consequences that may not be evident in the present. Extensive literature underscores the shortcomings in adolescent reproductive health and well-being, particularly in India and Southeast Asia. These deficiencies encompass various issues, including adolescent pregnancy, reproductive tract infections, unsafe abortions contributing to maternal mortality, and the pervasive stigmatisation surrounding menstruation and sexuality (Biswas, 2020; Mathiyalagen et al., 2017). Compared to adult women, abortion rates are higher among adolescents because of insufficient knowledge and information about contraceptives and challenges related to the accessibility and legality of abortion services (Ganatra & Hirve, 2002). In addition, nutritional needs receive inadequate attention in South Asian countries. An example is the prevailing practice in rural Indian families, where priority is often given to the nutrition of male children at the expense of their female counterparts. This has resulted in stunting and underweight among female adolescents, leading to potential reproductive health challenges in the future (Alam et al., 2010). Additionally, Vitamin B12 deficiencies are common in India, especially in regions where a vegetarian diet is widespread (Singla et al., 2019).

Despite extensive research into sexual practices and menstruation, our comprehension of reproductive health and its implications for the female body remains at a rudimentary stage. Reproductive health issues can engender nutritional diseases, non-communicable illnesses, mental disorders, and health risks associated with nutrition, such as overweight and obesity (Azzopardi et al., 2019), consequently leading to adverse health outcomes.

Discussions on sexual health rarely include positive approaches to sexual pleasure, sexuality, and relationships that focus on consent and respect. Elevating adolescents' active involvement in their health can enhance healthcare utilisation and bolster the effectiveness and longevity of interventions that uphold adolescents' rights and promote sexual and reproductive health (Sebastian et al., 2014).

Today, menstrual health is a significant but overlooked gateway to discussing gender, sexuality, puberty, and reproductive health with young women. Globally, female adolescents'

knowledge and awareness of reproductive health and well-being vary considerably and are frequently low or limited. This limited knowledge and awareness is concurrent with stigmas related to discussing women's health, along with cultural perceptions of menstruation as a taboo and unclean phenomenon (Chandra-Mouli et al., 2017). Consequently, there is a pressing requirement for comprehensive education concerning women's bodies, with a specific emphasis on reproductive health and well-being. Such education should dispel detrimental practices and beliefs, diminish social stigmatisation, and grant adolescents greater autonomy in making informed decisions regarding their health.

1.2.3 The Changing Face of Women's Lives

Data show that the percentage of female adolescents married at 15–19 years old decreased from 11.9% in 2005–2006 to 1.7% in 2019–2021. Similarly, 52.8% of women were first married at 25–29 years old during 2019–2021, compared to 72.4% in 2005–2006. The age at marriage seems to have increased over time, and now those belonging to younger generations define what the 'marriageable age' should be (Mishra, 2022).

The changes in the perspective and lifestyle of female adolescents have rendered them progressive in terms of their careers, life choices, and preferences and helped them attain a voice of their own. However, these changes have their own set of health implications, as is recognised by the commonly expressed idea that the biological clock and career clock conflict with each other.

1.2.3.1 Issues Related to Delayed Pregnancy. The concept of the biological clock has gained widespread recognition for addressing reproductive timing with regard to age-related infertility and delayed childbirth. Recent research indicates a significant increase in the number of women who have delayed having a child or were aged 35 years or older when they opted to have their first child (Cooke et al., 2010; Lavender et al., 2015; Wyndham et al., 2012).

Delaying motherhood presents unique reproductive health challenges. It often conflicts between the time and effort needed to achieve social and personal goals and the limited fertility-determined childbearing window. Previous research highlights the risks associated with defying the biological clock, which include maternal mortality, chromosomal abnormalities, congenital malformations, low birth weights, gestational diabetes, hypertension, preeclampsia, and increased perinatal morbidity, and so forth (Billari et al., 2011; Cooke et al., 2010; Daly & Bewley, 2013; Macintosh, 2015; Wyndham et al., 2012). However, philosophers such as

Foucault suggest that biopolitics is a technology of power capable of regulating the defined norms: 'It is, in a word, a matter of taking control of life and the biological processes of man-as-species' (Foucault, 2003, pp. 246–247). Thus, women are actively exploring coping strategies to regain agency of their childbearing window, which include anticipating and planning for the future.

1.2.3.2 Polycystic Ovary Syndrome and Polycystic Ovarian Disease. The last decade has seen an increase in the global rate of polycystic ovary syndrome (PCOS) and polycystic ovarian disease (PCOD), with their prevalence ranging from 3.5% to 22.5% in India. Notably, PCOS and PCOD have become more common among female adolescents because of increasingly modern lifestyles (Sharma et al., 2021). However, diagnosing these conditions in adolescence is difficult because their symptoms coincide with regular pubertal changes. Consequently, there is scant literature on the prevalence of PCOS and PCOD in female adolescents.

Whereas PCOS is the most common endocrine disorder among women of reproductive age, PCOD is mainly caused by hormonal imbalances and genetic tendencies. Their clinical presentations vary considerably, making them easily confusable with other endocrine disorders such as congenital adrenal hyperplasia, hyperprolactinemia, and abnormal thyroid function. Among the most frequently reported symptoms of PCOS are reproductive dysfunction and menstrual abnormalities, both of which can result in infertility. Both PCOS and PCOD have overlapping symptoms: weight gain, infertility, acne, irregular periods, and so on. Although the symptoms may manifest at an early age, most women can identify them only between the ages of 20 and 30, which is the period of prime reproductive health and coincides with drastic lifestyle changes. Thus, PCOS and PCOD represent significant reproductive health issues that need to be dealt with (Bharali et al., 2022).

1.2.3.3 Mental Health Issues. Women experience mental health problems at various stages of their lives, which may be caused by both environmental and physiological factors. Mental health concerns related to hormones have become prevalent and are recognised as a reproductive health and well-being issue. In particular, women experience symptoms of depression during phases marked by hormonal changes. These phases include pregnancy and the postpartum period (perinatal depression), the menstrual cycle (premenstrual dysphoric disorder), and the menopausal transition (perimenopause-related depression). These issues are

being recognised and acknowledged only now. However, more research is needed to understand their implications and identify coping strategies (Mental Health Foundation, 2023).

In the past three decades, researchers, policymakers, and programme implementers have considerably supplemented knowledge related to adolescents' requirements and concerns. Nevertheless, a risk-reduction approach and a focus on understanding physical health outcomes remain prevalent. Essential aspects of sexual and reproductive health—such as consent, body image, sexual agency, pleasure, social and psychological well-being, and self-esteem—receive much less attention and are usually absent in large-scale studies (Liang et al., 2019). Despite initiatives by various institutions to tackle these gaps through awareness programmes and workshops, how such programmes affect adolescents' well-being and long-term understanding remains under-researched. This highlights the importance of interventions and programmes that allow adolescents to understand their bodies and access such information conceptually and scientifically at an early age, thereby promoting self-agency.

As per the Census of India, one in 10 people in India lives in urban poverty. Indians aged 10 to 19 years living in urban poverty, often in a slum, face acute challenges regarding access to nutritious food, drinking water, sanitation, hygiene, stable employment, and social protection programmes, as well as overcrowding and environmental pollution. Despite better access to education, urban youth do not have adequate nutrition and health services and lack support systems. This translates into a failure to address a range of issues related to female adolescents' physical, sexual, and mental health, nutrition, and overall development. Community outreach services for female adolescents in densely populated urban areas with floating groups of populations may require a different strategy than in rural areas where the community is a close-knit and relatively homogenous group (IDinsight, 2022).

1.2.4 Recognition of Adolescent Healthcare in the Sustainable Development Goals

Before 2015, the Global Strategy for Women and Children's Health largely overlooked adolescents (Bundy, 2017). However, the commitment to the goal of 'leaving no one behind' led to the recognition of the unique needs of adolescents in the United Nations' Global Strategy for Women's, Children's, and Adolescents' Health as well as The Sustainable Development Goals (2023); The Global Strategy for Women's, Children's and Adolescents' Health (2016-2030; WHO, 2018). This offers a novel and unique opportunity to address adolescents' general, sexual, and reproductive health and rights.

It is now recognised that an individual's health during each life stage impacts their health in subsequent stages and has cumulative effects on future generations. Poor starts in life are often associated with inadequate nutrition, poor health, limited educational opportunities, lower adult income, and heightened social stress. Hence, addressing and prioritising adolescent health and well-being is imperative to achieve the Sustainable Development Goals, especially in impoverished regions that lack education, healthcare, and medical resources. Comprehensive action is required across various sectors and environments to ensure the survival, growth, and transformation of children and adolescents (WHO, 2017).

Securing a healthy life and promoting well-being for individuals of all ages is the aim of Sustainable Development Goal 3 (United Nations Development Programme, 2023). Among the various indicators for Sustainable Development Goal 3, Target 3.7 emphasises the provision of sexual and reproductive healthcare services that are universally accessible. Such services include informational and education programmes, family planning, and efforts to incorporate reproductive health in national programmes and strategies. The rationale here is to reduce adolescent birth rates by focusing on the various underlying factors that are necessary for enhancing adolescents' sexual and reproductive health as well as socioeconomic well-being.

Women who experience pregnancy and childbirth at young ages have a heightened risk of complications or maternal mortality. Furthermore, their offspring tend to be more vulnerable. Hence, taking measures to prevent early pregnancies is crucial to reducing infant mortality rates and enhancing maternal health. Adolescent birth rates indirectly indicate access to vital health services; young individuals, particularly unmarried female adolescents, frequently encounter obstacles when accessing sexual and reproductive health services, thereby highlighting the importance of examining and addressing this issue.

1.3 Significance of the Present Research

The acceptance and cruciality of health communication are becoming evident in healthcare. Governmental, non-governmental, and private organisations working in healthcare are developing mechanisms to build new communication strategies. Much focus is placed on developing and creating engaging and interactive content, with claims of behavioural modifications and positive influences as the outcomes. However, the supporting evidence is related to acute health issues with immediate implications, such as pregnancy, HIV/AIDS,

diabetes, or COVID-19. There is little to no evidence of significant behaviour change for long-term issues nor any studies that validate the transfer of knowledge in the long term.

This highlights the need for a validated study of a communication medium that works at a metacognitive level to effect sustainable, positive health behaviour change. Such a study would need to be conducted among a population whose characteristics could be measured in the future. Adolescent sexual behaviour has been a prime topic of healthcare intervention research for generations. In such research, the emphasis has been on menstruation practices, health, hygiene, and other sexual practices; topics related to reproductive health and general well-being do not receive much attention. Hence, many women face multiple reproductive health issues at a later age and are unaware of the risks they face. In most cases, education during adolescence does not cover future health issues and their implications.

Adolescence is a period when it is appropriate to impart health-related knowledge and promote healthy lifestyles and habits. Lifestyle changes adopted during one's adolescence are likelier to persist throughout a person's life. Therefore, positive health behaviours inculcated in adolescence can reduce an individual's risk of developing chronic diseases in adulthood. Notably, research indicates that preventive measures adopted during adolescence may suppress the impact of disease risk beyond the age of 45 (Taylor, 2018); in other words, health habits practised as an adolescent may determine health in older adulthood.

1.4 Research Gaps and Rationale of the Research

1.4.1 Gaps in Current Health Communication

- The existing health communication models focus on immediate health implications. The efficacy of interventions designed according to those models cannot be measured for long-term health issues. Although such interventions have worked for conditions such as pregnancy, HIV/AIDS, diabetes, and COVID-19, there are no validated studies showing positive influences towards health when there are no direct or immediate implications.
- The current health communication models are not based on health psychology theories and models. Hence, they lack a psychological underpinning, which leads to the lack of a rationale regarding the benefits of certain health promotion practices.
- Most health promotion practices are initiated by governments or healthcare agencies, focusing on features such as monitoring and reminding. Consequently, there is a lack of evidence about information seeking.

- The existing health communication models work on implementation strategies and promoting interventions at the population level. Hence, customisation and localisation become a challenge.

1.4.2 Gaps in Adolescent Reproductive Health and Well-Being

- Menstrual health is an important gateway to discussing sexuality, gender, puberty, and reproductive health with young women. Female adolescents' knowledge and awareness of reproductive health and well-being are highly variable and frequently low across the world. This lack of understanding is exacerbated by stigmas associated with discussing women's health, as well as cultural perceptions of menstruation as dirty and a taboo subject (Chandra-Mouli et al., 2017). Thus, female adolescents need to be offered comprehensive education to understand female physiology, which would, in turn, enhance their understanding of reproductive health and well-being, dispel superstitious and harmful customs and beliefs, reduce stigma, and increase autonomy.
- In the past 25 years, those involved in programme implementation, research, and policymaking have enriched our understanding of the needs and issues faced by adolescents. To that end, they have identified strategies to help adolescents achieve their goals and overcome obstacles to sexual and reproductive health and well-being. However, the emphasis has centred mainly on physical health outcomes and a risk-reduction approach. Aspects such as social and psychological well-being, which include self-esteem, pleasurable and equitable sexual and romantic relationships, and body image, are intrinsic aspects of sexual and reproductive health. However, they are significantly less focused on and frequently assessed solely in cross-sectional studies that are limited in scale (Liang et al., 2019).
- The effect of the interplay of life events is poorly understood, including how overexposure to information augments or negates risks related to sexual and reproductive health risks and how they affect the transformation to an adulthood marked by health and well-being.