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Building Demand for Human Papillomavirus (HPV) Vaccination in India: A Review of the Behavioural and Social Drivers of Parental and Community Acceptance

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Abstract

India launched its National HPV Vaccination Campaign in February 2026, offering free, voluntary, single-dose vaccination to 14-year-old girls with parental consent. By September 2026, more than 80 lakh doses had been administered against an estimated annual cohort of about 1.2 crore girls, with wide variation across states. Because uptake depends on parental decisions, understanding what drives acceptance is now a programme priority rather than an academic question. This narrative review synthesises Indian evidence on parental and community acceptance of human papillomavirus (HPV) vaccination, identified through a structured PubMed search and organised by the World Health Organization (WHO) Behavioural and Social Drivers (BeSD) framework, and considers how the shift to a free, nationally endorsed, single-dose programme changes the relevance of earlier findings.

Indian studies consistently report low awareness, fears about safety and infertility, and concerns that the vaccine may encourage early sexual activity. Decisions are shaped by the wider family, with fathers and elders often having the final say, and by the recommendations of doctors and frontline workers. Most studies measure stated willingness rather than actual vaccination, and the evidence is concentrated in a few southern districts. Before 2026, cost was a dominant practical barrier; with free provision, the remaining practical barriers are mostly access, consent processes, and reaching girls outside school. The national campaign removes the cost barrier but not the belief-based and social barriers. Demand generation should prioritise equipping trusted health workers and teachers to recommend vaccination, engaging extended families and community leaders, pre-empting misinformation, and making consent and access easy. Standardised measurement of behavioural drivers, using tools such as the WHO BeSD surveys, should be built into campaign monitoring.

Categories: Family/General Practice, Preventive Medicine, Epidemiology/Public Health
Keywords: adolescent immunisation, behavioural and social drivers, cervical cancer prevention, hpv vaccine, india, parental acceptance, vaccine hesitancy

Introduction And Background

Cervical cancer is among the most common cancers in Indian women and accounts for a substantial share of the global burden [1]. It is also among the most preventable. The World Health Organization (WHO) strategy to eliminate cervical cancer as a public health problem sets three targets for 2030: 90% of girls fully vaccinated against human papillomavirus (HPV) by the age of 15 years, 70% of women screened with a high-performance test by the ages of 35 and 45 years, and 90% of women with cervical disease receiving treatment [2].

India has contributed decisively to the science of HPV vaccination. The multicentre cohort in India coordinated by the International Agency for Research on Cancer (IARC) showed that a single dose of quadrivalent HPV vaccine protected adolescent girls against persistent HPV 16/18 infection as well as two or three doses at 10 years, with a single-dose vaccine efficacy of 95.4% [3,4]. This evidence underpinned the global shift to single-dose schedules. India has also developed an indigenous quadrivalent vaccine that was shown to be non-inferior to an established vaccine in a phase 2/3 trial [5].

Before the national programme, HPV vaccination in India was limited. It was available mainly in the private sector and through state initiatives such as those in Punjab and Sikkim [6,7]. A meta-analysis of community-level studies estimated pooled coverage of only about 4%; in the same meta-analysis, only about 22% of respondents had knowledge of the vaccine, and 45% had a positive attitude towards it [8].

This changed in February 2026, when the National HPV Vaccination Campaign was launched. It offers free, voluntary, single-dose vaccination to 14-year-old girls at government health facilities, with parental

consent. According to the Ministry of Health and Family Welfare, more than 80 lakh doses had been administered by 11 September 2026, against an annual cohort of about 1.2 crore 14-year-old girls estimated from Registrar General of India projections; Gujarat, Uttar Pradesh, Madhya Pradesh, and Mizoram reported covering 100% of their identified target populations, while coverage in other states was lower [9].

Because the campaign is voluntary and consent-based, its success depends on the decisions of parents and on the people who influence them. Vaccine hesitancy, defined as delay in acceptance or refusal of vaccination despite available services, is complex and context-specific, and it varies across time, place, and vaccine [10]. Most Indian studies on HPV vaccine acceptance were conducted when the vaccine was paid for, multi-dose, and not endorsed by a national programme. It is therefore important to ask which of their findings still apply.

A recent scoping review mapped barriers to HPV vaccination among adolescent girls in India, covering studies published between 2008 and 2025 and organising them by the socio-ecological model [11]. The present review differs from it in three respects. First, its focus is the decision-makers and influencers around the girl, namely, parents, extended families, teachers, and health workers, rather than the girl alone. Second, it organises the evidence using the WHO Behavioural and Social Drivers (BeSD) framework, which immunisation programmes themselves use to design and monitor demand generation, so that each finding can be linked to a programme action. Third, it interprets the evidence in light of the national single-dose campaign, asking which barriers the campaign removes and which remain, and it includes studies published in 2025 and 2026 around the time of national introduction.

The aim of this narrative review is therefore to synthesise Indian evidence on the behavioural and social drivers of parental and community acceptance of HPV vaccination, to examine how the national campaign changes their relevance, and to derive practical recommendations for demand generation and research. The review is a narrative synthesis of published quantitative and qualitative studies; it does not pool data statistically.

The review was prepared in line with the Scale for the Assessment of Narrative Review Articles (SANRA) [12]. PubMed was searched on 2 October 2026 for articles published from January 2008 onward, using Medical Subject Headings and free-text terms for HPV vaccine, acceptance or hesitancy, and India combined with Boolean operators; the full search string is given in Appendix 1. Studies were eligible if they were conducted in India and reported acceptance, willingness, intention, hesitancy, or uptake of HPV vaccination for adolescents, or the determinants of these, among parents or caregivers, adolescents, or community influencers such as teachers and health workers; intervention studies and programme evaluations with an acceptance outcome were also eligible. Studies conducted outside India, studies of adults, students, or health workers considering vaccination for themselves, studies reporting knowledge alone, and studies of cervical screening or economic modelling were excluded. Titles and abstracts were screened by one author, and decisions and reasons for exclusion were recorded in a screening log. Of 176 records retrieved, 119 were excluded, 16 were retained as background sources, and 41 were judged relevant, comprising 38 primary studies and three prior syntheses (Appendix 2). The search was supplemented by the reference lists of recent Indian reviews [8,11], policy documents from the Ministry of Health and Family Welfare and WHO, and targeted searches for international evidence on vaccine confidence and misinformation. Studies were selected for discussion according to their relevance to each BeSD domain, giving preference to larger samples, analytical designs, and recent studies; findings were then synthesised narratively under each domain.

Review

Conceptual framework: the behavioural and social drivers of vaccination

The BeSD framework, developed by WHO and built on the work of Brewer and colleagues, groups the drivers of vaccination into four domains [13,14]. The first domain, thinking and feeling, covers perceived disease risk, vaccine confidence, and trust. The second, social processes, covers social norms, recommendations from health workers, and who makes decisions within the family. The third, motivation, refers to the intention or willingness to vaccinate. The fourth, practical issues, covers availability, affordability, ease of access, and the quality of the service experience.

Within this framework, thoughts, feelings, and social processes are understood to shape motivation, while practical issues determine whether motivation turns into vaccination [13,14]. Evidence synthesised by Brewer and colleagues, drawn mainly from high-income countries, suggests that interventions that build on existing favourable intentions and make vaccination easy tend to be more effective than attempts to change people's minds [14]. The framework is particularly useful in India because it aligns with the survey tools that immunisation programmes can use to monitor drivers of uptake. Table *1* summarises the key Indian primary studies discussed in this review, including their settings, designs, populations, and principal findings.

Study and setting	Design and population	Principal findings relevant to this review
Madhivanan et al., 2014; Mysore city, Karnataka [15]	Cross-sectional survey, 2010; 797 parents of schoolgirls from 12 schools	71% willing to accept; acceptance higher with recommendation from own parents and belief in safety and lower with side-effect concerns
Madhivanan et al., 2014; Mysore, Karnataka [16]	Cross-sectional survey; parents of 800 schoolgirls	Only 5.3% favoured vaccination at 10 years or younger; 38.3% preferred 11-15 years
Degarege et al., 2019; Mysore district, Karnataka [17]	Cross-sectional survey with structural equation modelling, 2010-2011; 1,609 parents of schoolgirls	78% intended to vaccinate; perceived benefits and barriers predicted intention; religion moderated social norms
Paul et al., 2014; India [18]	Qualitative; 36 interviews with parents	Positive views despite limited knowledge; side effects, cost, and missed work as barriers; strong influence of providers
Jacob et al., 2021; Mysuru, Karnataka [19]	School-based interventional study; parents of adolescent girls in four schools	Vaccination prevalence 4.4%; education improved knowledge but not perception
Dhinu et al., 2024; Bishnupur, Manipur [20]	Quasi-experimental; 70 parents, convenience sample	Stated acceptance rose from 61.4% to 88.6% after three health education sessions
Ray et al., 2024; Gurgaon, Haryana [21]	Hospital-based contingent valuation, 2018-2019; 319 mothers	79% willing to pay; mean willingness to pay INR 629 against a market price of INR 2,000-3,000 per dose
Holroyd et al., 2022; Uttar Pradesh [22]	Qualitative, design-informed; out-of-school girls, parents, and community members	School-based delivery misses out-of-school girls; flexible services and girl champions needed
Ahmed et al., 2022; Sikkim [7]	Programme evaluation, 2018-2019; girls aged 9-13 years	More than 95% coverage with minimal refusal through school-based, multi-age cohort delivery
Narayanan et al., 2025; Puducherry [23]	Mixed methods; 388 parents of girls aged 9-18 years	91.5% willing under the universal immunisation programme versus 44.1% through private providers
Kumar et al., 2026; Rajasthan [24]	Qualitative; six focus groups with parents and frontline workers and 10 interviews with medical officers and teachers	Acceptance conditional on cancer-prevention framing and government endorsement; fathers often final decision-makers; counselling gaps among health workers

TABLE 1: Key Indian primary studies on HPV vaccine acceptance discussed in this review

HPV: human papillomavirus

Thinking and feeling: awareness, risk perception, and vaccine confidence

Low Awareness and Low Perceived Risk

Across Indian studies, awareness of HPV, of its link to cervical cancer, and of the vaccine has been consistently low among parents, adolescents, and women [8,11]. Low awareness reduces perceived risk. When parents do not see cervical cancer as a threat relevant to their daughters, the vaccine offers little apparent benefit. Most studies treat awareness as a prerequisite for acceptance, but educational interventions show that raising knowledge does not always translate into a decision to vaccinate. In a school-based study in Mysuru, for example, an educational leaflet sent to parents significantly improved their knowledge but did not change their perception of the vaccine [19].

Safety Concerns and Infertility Fears

Concerns about side effects are among the most frequently reported reasons for hesitancy in Indian studies [11,15,18]. In a 2010 survey of 797 parents of schoolgirls in Mysore, those who had concerns about side effects were less likely to report willingness to accept the vaccine, while those who believed it was safe were

more likely to accept it [15]. A specific and recurring fear is that the vaccine may affect future fertility. This concern carries particular weight in a society where marriage and childbearing are central to a girl's future. The belief appears in several settings and is often linked to wider mistrust of new vaccines given to adolescent girls [11].

The Shadow of 2010

Parental trust in HPV vaccination in India cannot be separated from its history. In April 2010, the government suspended HPV vaccine demonstration projects in Andhra Pradesh and Gujarat amid public concerns about safety [25,26]. The suspension also halted the IARC multicentre trial, which was then converted into a cohort study [3]. The episode was widely debated, including challenges to the epidemiological case for vaccination at the time [26]. It shaped professional and public discussion of the vaccine for more than a decade, and it remains a ready source for misinformation.

Moral Concerns

Because HPV is sexually transmitted, some parents believe that vaccinating daughters may signal permission for, or encourage, early sexual activity. Several Indian studies report this concern, and the associated stigma is strongest in conservative and rural settings [11]. This is one reason why framing HPV vaccination as cancer prevention, rather than prevention of a sexually transmitted infection, recurs in the recommendations below.

Social processes: who decides and who influences

Family Decision-Making

HPV vaccination decisions in Indian families are rarely made by one person alone. In Mysore, parents were more likely to accept the vaccine for their daughters when their own parents recommended it, and the authors called for promotion directed at the extended family [15]. A more recent qualitative study in a district of Rajasthan, based on six focus group discussions with parents and frontline workers and 10 in-depth interviews with medical officers and teachers, found that decision-making was family-based, with mothers acting as information seekers and fathers often perceived as the final decision-makers [24]. Family disapproval, particularly in conservative settings, has been linked to refusal [11]. Communication strategies aimed only at mothers, or only at girls through schools, may therefore miss the people who actually shape the decision.

The Power of a Recommendation

In international evidence, a recommendation from a trusted health provider is one of the strongest predictors of vaccine acceptance [14]. Indian studies echo this. In 36 qualitative interviews, parents reported being strongly influenced by healthcare providers' recommendations [18], and recommendations from doctors and health workers emerge as key facilitators across studies, while providers in rural and semi-urban areas are often under-used as advocates [11]. In the national campaign, the trusted messengers are accredited social health activists (ASHAs), auxiliary nurse midwives (ANMs), medical officers, school teachers, and teams of the Rashtriya Bal Swasthya Karyakram. In the Rajasthan study, health workers were willing to support vaccination but reported gaps in their confidence and preparedness for counselling families [24]. Their knowledge, confidence, and willingness to recommend the vaccine have received far less research attention than those of parents.

Community Norms and Leaders

Social norms within communities, including religious and cultural beliefs, influence acceptance in both directions [11,17]. In a structural equation model based on 1,609 parents of schoolgirls in Mysore district surveyed in 2010 and 2011, 78% stated an intention to vaccinate their daughters; perceived benefits increased intention, perceived barriers reduced it, and religion moderated the influence of social norms [17]. Engaging local leaders and using culturally adapted messages show promise, although most of this evidence comes from small studies in a limited number of districts.

Motivation: willingness is not uptake

Many Indian studies report moderate to high stated willingness to vaccinate daughters, particularly once parents receive information. In a quasi-experimental study of 70 parents recruited by convenience sampling in Manipur, for example, the proportion who said they would definitely vaccinate their daughter rose from 61.4% to 88.6% after three sessions of one-on-one health education [20]. A hospital-based contingent valuation study of 319 mothers in Haryana found that 79% were willing to pay for the vaccine, but their mean maximum willingness to pay (INR 629) was far below the market price of INR 2,000-3,000 per dose at the time [21].

These figures are not directly comparable, because the studies differ in setting, sampling, and the way acceptance was defined, and all of them describe stated willingness rather than vaccination. Two caveats therefore matter. First, expressed willingness in surveys often overstates actual uptake, and few Indian studies have followed parents from intention to vaccination. Second, timing matters to parents. In a survey of parents of 800 schoolgirls in Mysore, only 5.3% felt girls should be vaccinated at 10 years or younger, while 38.3% preferred 11-15 years, and a third did not know [16]. This suggests that the campaign's choice of 14 years, rather than the youngest eligible ages, may itself work in favour of parental acceptance.

Practical issues: from cost to access and consent

Before 2026, cost was among the most commonly reported practical barriers. HPV vaccines were available mainly in the private sector at prices out of reach for most families, and parents also cited lost work time to attend vaccination [11,18]. Economic evaluation from Punjab had shown that HPV vaccination of adolescent girls would be very cost-effective for the state and likely for other Indian states [27].

The national campaign has removed the cost barrier, so other practical issues now become more important. The first is reaching girls beyond schools. Girls who have dropped out of school are systematically harder to reach, and community perspectives from Uttar Pradesh underline the need for delivery models designed specifically for them [22]. The second is the experience of multi-age cohort delivery. Sikkim's 2018 statewide, school-based introduction for girls aged 9-13 years achieved more than 95% coverage with minimal refusal, a success attributed to political commitment, mandatory school enrolment, collaboration between health and education departments, and strong social mobilisation [7]. The third is the burden of consent and registration, because written parental consent, U-WIN registration, and facility-based sessions each add steps that can lose willing families. Table *2* summarises the drivers identified in Indian studies under each BeSD domain, together with their implications for the national campaign.

BeSD domain	Key drivers reported in Indian studies	Implications for the national campaign
Thinking and feeling	Low awareness of HPV and cervical cancer risk; safety concerns; fear of infertility; belief that the vaccine promotes sexual activity; legacy of the 2010 controversy	Frame as cancer prevention; communicate India's own single-dose evidence; have pre-emptive responses ready for infertility and safety myths
Social processes	Extended family and elders shaping decisions, with fathers often the final decision-makers; strong influence of doctor and health worker recommendation; community and religious norms	Train ASHAs, ANMs, teachers, and medical officers to give a clear recommendation; engage fathers, extended families, and community leaders directly
Motivation	Moderate to high stated willingness, rising after education; parental preference for adolescent rather than early ages; gap between intention and uptake	Convert intention into action through reminders, appointment slots, and follow-up of consenting families
Practical issues	Cost (before 2026); lost work time; access for out-of-school girls	Make sessions easy to attend; simplify consent and registration; design outreach for girls not in school

TABLE 2: Behavioural and social drivers of HPV vaccine acceptance in India and implications for the national campaign

BeSD: Behavioural and Social Drivers; HPV: human papillomavirus; ASHA: accredited social health activist; ANM: auxiliary nurse midwife

What changes with the national campaign

The national campaign alters the context of HPV vaccine decisions in three ways. It removes cost, the most consistently reported practical barrier. It carries the endorsement of the government and the immunisation programme, which may improve trust among parents who previously relied on private providers. Indian data support this expectation: in a mixed-methods study of 388 parents in Puducherry, conducted after a brief education session, 91.5% were willing to vaccinate their daughters if the vaccine were offered under the universal immunisation programme, compared with 44.1% if it were offered by private providers [23], and in Rajasthan, acceptance was conditional on the vaccine being framed as cancer prevention and endorsed by the government and doctors [24]. It also concentrates the decision into a single dose at a single age, which makes timing and access more predictable.

However, the belief-based and social barriers identified over 15 years of Indian research are unlikely to disappear because the vaccine is now free. International experience shows how quickly confidence can collapse. In Japan, HPV vaccine coverage fell from over 70% to below 1% after proactive recommendations were suspended in 2013, following widely publicised reports of adverse events that were later found to be

unrelated to vaccination [28]. In Denmark, first-dose uptake fell from around 90% to 54% among later birth cohorts after negative media coverage of suspected adverse events [29]. A campaign reaching more than a crore girls a year will almost certainly see coincidental adverse events that can be misattributed to the vaccine. Robust arrangements for supervised sessions and for the management and investigation of adverse events following immunisation are therefore essential, and they need to be paired with rapid, transparent communication.

Recommendations for demand generation

The following recommendations are the authors' synthesis. They draw on the Indian evidence reviewed above and, where indicated, on international evidence, and they have not yet been evaluated within the national campaign.

Equip the Trusted Messengers

ASHAs, ANMs, teachers, and medical officers should receive brief, practical training in how to recommend HPV vaccination confidently and how to respond to common concerns, given the counselling gaps reported by Indian health workers [24] and the strong influence of provider recommendations on Indian parents [18].

Engage the Actual Decision-Makers

Communication should explicitly include fathers, grandparents, and community and religious leaders, not only mothers and girls [15,24]. Parent meetings in schools and community gatherings can be used for this purpose.

Frame the Vaccine as Cancer Prevention and Anticipate Myths

Messages should present HPV vaccination as protection against cervical cancer and highlight that the single-dose evidence was generated in India [3]. They should also address fears about fertility and safety before these spread. International evidence shows that retractions of misinformation are often ineffective in changing beliefs and can even backfire [30], whereas inoculating people in advance against common manipulation techniques has been shown to improve their resilience to misinformation on social media [31].

Make Vaccination Easy

Practical facilitation includes convenient session timings and school-linked sessions, simple consent procedures, reminders to families who have given consent, and active outreach to out-of-school girls.

Measure Drivers, Not Just Doses

The U-WIN platform tracks coverage, but it does not track why families decline. Periodic district-level surveys using standardised tools such as the WHO BeSD instruments [13] would help programme managers target efforts where hesitancy, rather than access, is the problem.

Prepare for Adverse Event Communication

States and districts should have a crisis communication plan for responding quickly and transparently to reports of adverse events or rumours.

Research gaps

Indian evidence on HPV vaccine acceptance has several limitations. It is geographically concentrated: of the 38 Indian primary studies identified by our search, 12 were conducted in Karnataka, nine of them in Mysore district alone, whereas central India and the north-east were each represented by a single study (Appendix 2). Most studies are cross-sectional surveys using non-standardised questionnaires, which makes it difficult to compare findings across studies. Few studies measure actual uptake rather than stated willingness, health workers and teachers are rarely studied as influencers, and out-of-school and tribal girls are under-represented. Almost no research yet examines the national campaign itself.

Priority research questions for the next two years therefore include what drives refusal and delay in districts with low campaign coverage, how frontline workers communicate about the vaccine with families, how misinformation circulates on social media and messaging platforms, and which interventions improve uptake among the hardest-to-reach girls.

Strengths and limitations

This review organises the Indian evidence around a framework that programme managers already use and links each driver to a practical action. It also has limitations. As a narrative review, it did not involve a

systematic search of multiple databases, duplicate independent screening, or formal risk-of-bias assessment, and the selection of studies for discussion involved judgement. Only PubMed was searched, which may have missed studies published in Indian journals that are not indexed there, and only English-language publications were considered. The quality of the underlying evidence was considered informally when interpreting findings: most studies were cross-sectional, many used convenience or school-based samples from single districts, outcomes were usually self-reported willingness measured with non-validated questionnaires, and most were conducted before free national provision. Findings from these studies should therefore be read as indicative of the drivers of acceptance rather than as estimates of current acceptance or coverage.

Conclusions

The National HPV Vaccination Campaign is a landmark in India's effort to eliminate cervical cancer, built on Indian evidence for single-dose protection. Free provision has removed the cost barrier that dominated earlier studies. However, the belief-based and social drivers of hesitancy remain, including safety and infertility fears, moral concerns, the influence of the wider family, and the legacy of 2010.

Sustained coverage will depend on whether trusted health workers and teachers recommend the vaccine confidently, whether the real decision-makers in families are reached, and whether vaccination is made easy for every eligible girl. Building measurement of behavioural drivers into campaign monitoring would allow these efforts to be targeted where they are needed most.

Appendices

Appendix 1

Search Strategy and Study Selection

PubMed was searched on 2 October 2026, with publication dates limited to 1 January 2008 to 2 October 2026. Field tags are shown here in parentheses; in PubMed, they are entered in square brackets. The search string was as follows: ("Papillomavirus Vaccines"(MeSH) OR "HPV vaccine"(tiab) OR "HPV vaccination"(tiab) OR "human papillomavirus vaccine"(tiab) OR "human papillomavirus vaccination"(tiab)) AND ("Vaccination Hesitancy"(MeSH) OR "Patient Acceptance of Health Care"(MeSH) OR "Health Knowledge, Attitudes, Practice"(MeSH) OR acceptance(tiab) OR acceptability(tiab) OR hesitancy(tiab) OR willingness(tiab) OR attitudes(tiab) OR barriers(tiab) OR parents(tiab)) AND ("India"(MeSH) OR India(tiab) OR Indian(tiab)).

Of the 176 records retrieved, 119 were excluded at title and abstract screening: 44 were not conducted in India; 39 concerned vaccination of adults, students, or health workers for themselves; 14 were reviews, opinion pieces, or duplicate records; seven concerned cervical screening rather than vaccination; seven addressed other topics; six reported knowledge or awareness only; and two were economic or modelling studies. A further 16 records, including guidelines, commentaries, and programme reviews, were retained as background sources. The remaining 41 records, comprising 38 primary studies and three prior syntheses of Indian evidence, were judged relevant and are listed in Appendix 2.

Appendix 2

Records Judged Relevant After Title and Abstract Screening (n=41)

PMID	Year	First author	Study (setting and focus)	Type
41558104	2026	Anand	KAP among schoolgirls aged 15-18 and mothers, Delhi (quasi-experimental)	Primary study
42574468	2026	John	Perceptions of students, parents, and teachers, rural Kerala (pilot)	Primary study
42328376	2026	Kumar A	Community and health worker perspectives, nonrollout district of Rajasthan (qualitative)	Primary study
42100579	2026	Vasudevan	Marginalized voices on HPV vaccination (qualitative, 3 states)	Primary study
41392010	2025	Dhusiya	Increasing uptake in schoolgirls: multi-stakeholder qualitative, Ganjam, Odisha	Primary study
41272865	2025	Ghosh	Educational intervention among teachers who are parents, Shimla (pilot)	Primary study
41063879	2025	Kavyarani	KAP of medical professionals on cervical cancer prevention, Kolar	Primary study

40975893	2025	Narayanan	Parental perceived risk, self-efficacy, and willingness, Puducherry (mixed methods)	Primary study
41257679	2025	Singh G	Perceptions and sentiments on HPV vaccine among Indian Reddit users	Primary study
39629380	2024	Dewan	Knowledge and attitude among middle/high school students aged 11-16, Gwalior	Primary study
39632632	2024	Dhinu	Health education and acceptance among parents, Bishnupur, Manipur	Primary study
41445902	2024	Ganeshkumar	KAP of clinicians across 15 states (FOGSI)	Primary study
39521568	2024	Njogu	HCW communication to promote HPV vaccination: Kenya, India, Nigeria	Primary study
38718287	2024	Rajkhowa	Geospatial mapping of public sentiment and infodemic on HPV vaccination (Twitter, BeSD)	Primary study
37994804	2023	Ray S	Willingness to pay among mothers, Haryana	Primary study
35859489	2022	Abra Pearl	Online education for parents of adolescents, Puducherry (pilot RCT)	Primary study
36317080	2022	Kataria	Physicians' awareness, perceptions, and choices on recommending HPV vaccine, West Bengal (qualitative)	Primary study
35182294	2022	Shah PM	Knowledge, attitudes, and vaccine intention among women, Mangalore	Primary study
34636268	2021	Holroyd	Pro-equity delivery for out-of-school girls, Uttar Pradesh	Primary study
33629029	2021	Jacob RA	Indirect education among parents, Mysuru schools	Primary study
33773531	2021	Mandal R	Community HPV vaccination project, rural West Bengal	Primary study
30655176	2019	Degarege	Integrative behaviour theory SEM, Mysore	Primary study
30055285	2018	Degarege	Acceptability among parents of adolescent girls, rural Mysore	Primary study
30117218	2018	Degarege	Determinants of parental attitudes and beliefs, Mysore	Primary study
29596907	2018	Degarege	Urban-rural inequities in parental attitudes, Mysore	Primary study
30693885	2018	Singh J	Cervical cancer awareness and HPV vaccine acceptability among females, Delhi	Primary study
26880357	2017	Canon	Knowledge and attitudes of academic and community physicians, Mangalore	Primary study
28361828	2016	Chawla	KAP among healthcare providers, Delhi-NCR	Primary study
25386964	2014	Hussain	Perception among students aged 12-22 and parents, North India	Primary study
24732716	2014	Madhivanan	Acceptability among parents, obstacles, and challenges, Mysore	Primary study
24528008	2014	Madhivanan	Indian parents prefer vaccinating daughters at older ages	Primary study
				Primary

23611111	2013	Paul P	Acceptability of HPV vaccine implementation among parents (qualitative)	study
24431687	2013	Ramavath	Knowledge among urban adolescent girls, five cities (FOGSI)	Primary study
21314807	2011	Basu P	Acceptability among urban affluent parents, Kolkata	Primary study
22084528	2011	LaMontagne	HPV delivery strategies achieving high coverage in LMICs including India (PATH demo)	Primary study
19414692	2009	Bingham	Sociocultural issues in HPV vaccine introduction: India, Peru, Uganda, Vietnam	Primary study
20307828	2009	Krupp	Physicians' intention to recommend, Mysore (qualitative)	Primary study
19596420	2009	Madhivanan	Attitudes among parents of adolescent girls, Mysore (focus groups)	Primary study
41648970	2025	Josten	Barriers to HPV vaccination among adolescent girls in India (scoping review)	Prior synthesis
38546062	2024	Pal D	KAP meta-analysis, India	Prior synthesis
37215327	2023	Krokidi	Health education interventions on HPV uptake/acceptance under 30, India (review)	Prior synthesis

TABLE 3: Records judged relevant after title and abstract screening (n=41)

HPV: human papillomavirus; KAP: knowledge, attitude, and practice; HCW: healthcare workers; RCT: randomized controlled trial; LMICs: low- and middle-income countries; FOGSI: Federation of Obstetric and Gynecological Societies of India

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Akash Zanwar, Priya Sahni, Jeevan Garg, Arti Arti

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