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Health Education in Indian Schools under NEP 2020: Opportunities, Challenges, and Policy Recommendations

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ABSTRACT

The National Education Policy (NEP) 2020 is a new step in portraying health and wellness in terms of educational planning, as it insists on health checks, Well-being Ambassadors/Clubs, yoga, physical education, life-skills education, and addressing nutrition, hygiene, and mental health issues since the early education of children. Though research in this area has resulted in a substantial body of literature on school health education in India, the research remains uncoordinated as different branches of studies (public health, health education, dentistry, nursing) have investigated the topic without attempting to relate it to NEP 2020 in its key provisions.

To systematize the findings on the studied issue in school health education in India (2014-2026, mostly 2020-2026) to define NEP 2020's potential to shape school health education, analyzing the difficulties connected with its introduction, and formulating the relevant recommendations.

We adhered to PRISMA Reporting Guidelines. Database search included PubMed, Scopus, Google Scholar, ScienceDirect, and PMC. Our database search revealed a total of 163 items. We excluded 41 duplicates, leading to 122 items being screened by title/abstract and 106 full-text articles being reviewed for eligibility based on predetermined inclusion and exclusion criteria across seven themes (school health interventions, mental health and life skills, health-promoting schools, health literacy and nutrition, hygiene and menstrual health education, sexual and reproductive health education, and NEP 2020 policy analyses). A total of 37 articles met all the criteria.

The articles were grouped into seven categories, consisting of a majority of articles focusing on school-based NCD, hygiene, oral health and tobacco (n=13) and mental health/life skills (n=8). The research shows that structured interventions which are integrated into the curriculum have the potential to enhance the knowledge, attitudes, and health-related practices among students according to the evidence available. Important gaps that need to be filled in through research include the need for training teachers in the new techniques and addressing rural-urban and gender disparities, stigma surrounding menstruation and sexual/reproductive health issues, and underdeveloped systems of monitoring and evaluating the research.

The NEP 2020 offers a unique opportunity for incorporating health education throughout the entire educational journey from pre-school to the final school grade or Class 12. For this to come true, however, teachers will need to be properly trained, and standardised curricula, monitoring systems, as well as resources for the vulnerable parts of the country, will have to be implemented.

Keywords: National Education Policy 2020, school health education, health-promoting schools, life skills, adolescent health, menstrual hygiene, PRISMA.

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INTRODUCTION

The National Education Policy (NEP) 2020 was approved by the Union Cabinet of India on 29 July 2020. This policy is the first policy overhaul for the Indian education sector after three decades. The NEP 2020 states health, nutrition, and well-being as key parts of learning (Ministry of Education, 2020). In terms of schooling, the NEP 2020 has a new schooling structure of 5+3+3+4, which is based on a new teaching method. The NEP 2020 requires all schools to conduct regular health check-ups and issue health cards to their students. The NEP 2020 also requires every school to appoint a trained teacher who will act as a 'Health and Wellness Ambassador'. The NEP 2020 places health and wellness-related subjects, such as yoga, life skills and physical fitness, at the center of the schooling system as compared to some other educational programs that consider them complementary to the main curriculum (Ministryof Education, 2020).

There were comments on the NEP, especially at the time of its launch and again after 5 years of its implementation. In the comments, the authors explained that the NEP provided policies like bagless education, sports, physical education and others (Observer Research Foundation, 2024; POSHAN/Outlook India, 2020), while a stocktake in 2025 mentioned the start of policies such as health check-ups and the opening of Health and Wellness Clubs. A thorough examination of NEP 2020's stance on yoga, health and physical education has also indicated that the policy brings a major transitional change from a cognitive-centered education system to a holistic approach to education, although the implementation may be slow due to the constraints in the availability of resources and training for teachers (Shastri, 2022).

Apart from NEP 2020, India has developed two decades of research on health education in schools related to several areas such as prevention of non-communicable diseases (NCDs), tobacco control, hygiene (oral and personal hygiene), water and sanitation, mental health and life skills, menstrual hygiene management, and sexual and reproductive health (SRH) education (Singh & Verma, 2024). However, there have been very few efforts to synthesize this body of work as it relates to goals of the NEP 2020 practice guidelines, thereby hindering the process for policymakers, educational administrators and teacher-trainers to determine what measures are being applied successfully, where evidence and implementation gaps are larger and the steps to be taken for creating an appropriate scale for the existing initiatives using the structures of NEP 2020 (Health and Wellness Clubs, Health and Wellness Ambassador role, or RKSK)

This review steps in to fill that gap. The review offers a systematic summary of school health education research studies conducted in India, primarily over the years 2020 to 2026 (a few previous articles were also included, mainly due to their historical significance), organizes findings into different areas of research, and presents some suggestions, challenges, and policies for health education programs prescribed by NEP 2020.

METHODOLOGY

The analysis is based on the framework of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) to ensure transparency and reproducibility in finding, screening, and combining the existing literature.

Search Strategy and Study Identification

Sources such as PubMed, Scopus, Google Scholar, ScienceDirect, PMC, and other online sources (Cureus, BMC, Frontiers, Springer/Reproductive Health, Taylor & Francis) found through government/policy repositories like the Observer Research Foundation and PIB were employed to find articles that contained phrases like "school health education" and "health-promoting schools in India," "life skills for adolescents," "menstrual hygiene in schools," "sexual and reproductive health education for teachers," "tobacco prevention in India," and "NEP 2020 health." In total, 163 documents were pulled from this search.

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Inclusion and Exclusion Criteria

(i) The studies were selected based on three criteria: (a) the studies were

a) Conducted either within Indian schools or requested the involvement of Indian school children, educators or guardians.
b) Touched upon particular health education issues such as (A) health education programmes managed by healthcare workers (B) mental health (C) nutrition (D) health literacy and nutrition, (E) hygiene and menstruation health (F) sexual and reproductive health education (G) NEP 2020 and policy analysis.
c) Provided empirical evidence, standard protocols or memorable policy literature available between 2020-2025.

(ii) In the following instances, studies were dismissed:

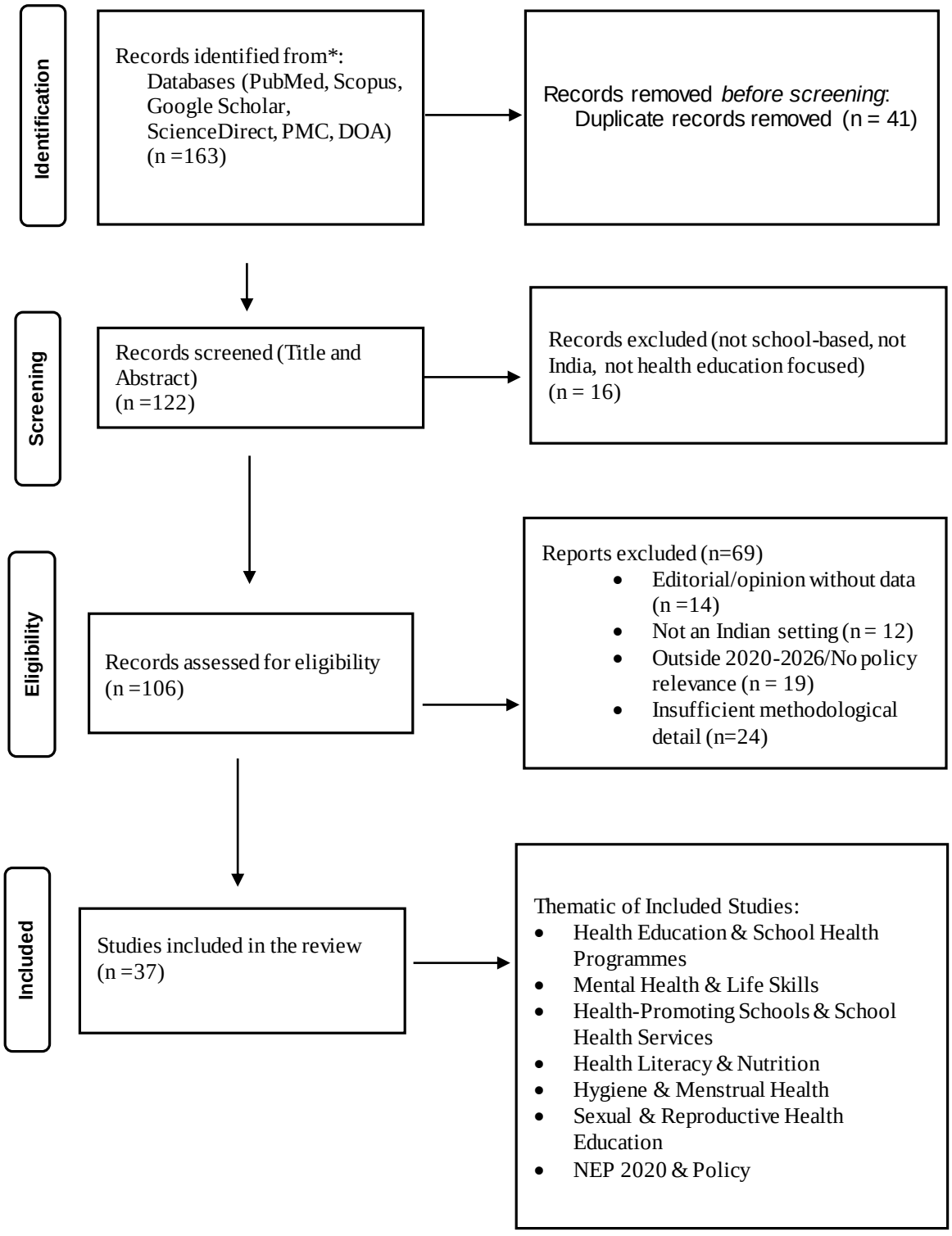
a) they are commentaries or editorials without original material or significant influence on a given type of policy;
b) they are conducted outside India, or they don't concern a school-age cohort;
c) there doesn't appear to be adequate methodology, participant description, or theoretical basis; or
d) they cannot be deemed as being published during the given 2020−2026 period or satisfactorily answering the review's question (for example, some works written about yoga in schools, or HIV/AIDS awareness programs, or first-aid/CPR training or disaster risk reduction methods had to be confirmed).

Study Selection

After removing 41 duplicate records out of 163 records and screening them for title and abstract, 122 records were retained. Sixteen records were excluded due to non-fulfilment of criteria such as not focusing on the school setting, not being based in India, or health education, thereby leaving the reviewer with 106 articles for further review. After conducting the full-text assessment on 106 records, 69 records were eliminated for reasons such as being in the editorials and commentaries category (n=14), of non-Indian context (n=12), or publication outside the publication date or lacking NEP 2020 or a health education connection (n=19), and insufficient detail related to the methodology or addressing an irrelevant topic (n=24). Other than that, the remaining 37 publications met all inclusion criteria and were included in the qualitative synthesis.

Data Extraction and Synthesis

A structured data extraction template was used to collect the following data for each study included in the review: authors/publication details, the year and journal name, aim of the study, sampling and setting, sampling technique, data collection tools, and methods of analysis. Data from a pilot sample of studies were extracted independently by two reviewers to ensure consistency in the data extraction process throughout the complete pilot sample. Considering the large variety of research methods (cluster randomized trials, quasi-experimental studies, cross-sectional surveys, qualitative studies, as well as narrative/systematic reviews), it was necessary to use the narrative synthesis method. The studies were grouped based on the seven categories described above.



PFigure 1: PRISMA flow diagram of study identification, screening and inclusion

RESULTS

The studies that were included in the research came from the period between 2014 and 2026, out of which 32 were published in or after 2020. The emergence of these studies coincides with the implementation of NEP 2020, as shown in Table 1 giving summary of various themes.

Table 1: **Thematic Classification of Included Studies**

Category	Theme Description	No. of Studies
A	Health Education & School Health Programmes	13
B	Mental Health & Life Skills	8
C	Health-Promoting Schools & School Health Services	3
D	Health Literacy & Nutrition	3
E	Hygiene & Menstrual Health	4
F	Sexual & Reproductive Health Education	3
G	NEP 2020 & Policy	3
	Total	**37**

Author's compilation

Health Education & School Health Programmes (n=13)

The vast bulk of research examined multi-component, schooling-based health education initiatives directed at factors associated with non-communicable diseases, hygiene, oral hygiene, sanitary issues and tobacco use. Several studies using large population samples in rural areas of North India, Chandigarh and Shimla showed that formal induction of teachers and regulations relating to nutrition, exercise and tobacco produced a significant increase in implementation of school policies and the knowledge and awareness of students. School hygiene studies from Mumbai and Rajasthan, along with research into sanitation knowledge from Madhya Pradesh, point to significant improvements in hygiene knowledge and attitudes (Dongre et al., 2018; Sharma & Kumar, 2019; Patil & Solanki, 2023). Studies about oral hygiene education from Central India also achieved satisfactory results in informing children about the basic principles of dental hygiene (Sharma & Kumar, 2019) Work on tobacco education in Southern India, Maharashtra, Kerala and Ahmedabad also demonstrated that anti-tobacco education improved knowledge, while countrywide surveys indicated ever-use of psychoactive substances among schoolchildren (Nazar et al., 2022; Mony & Jayaraman, 2021; Patel & Trivedi, 2019; Sharma & Singh, 2016; Dhawan et al., 2017).

Mental Health & Life Skills (n=8)

According to a scoping review, school-based programs for adolescent mental health interventions in India largely emphasize life skills training instead of clinical mental health outcomes (Malhotra & Patra, 2022). Similarly, through a mixed-methods study regarding life skills training (LST) in Puducherry, the researchers confirmed that LST can enhance adolescents' socio-emotional development, noting that it takes a full month of intervention for observable change to occur (Aniceto & Rajkumar, 2023). Additionally, other research studies reveal that the key feature of mental health interventions for adolescents undertaken in India is the fragmentation of initiatives regarding mental health issues rather than adopting a comprehensive whole-school approach, although there is a growing body of evidence (Gupta & Rani, 2023; Roy & Das, 2024), as indicated by the introduction of NEP 2020, the Rashtriya Kishore Swasthya Karyakram and the Adolescent Education Program (Malakar & Sharma, 2015; Seshadri & Priti, 2021).

A study on life-skills in South India shows observable discrepancies in the life-skills performances of boys and girls; thus, a gender-sensitive programme design is essential. The study covering multiple sites showed the relationship between the 'Childhood to Livelihood' project of Magic Bus and positive results in improved school attendance, self-efficacy, resilience and gender attitudes [19]. Conducting a cluster-randomized trial of mental health literacy and contact

education among secondary students in Chennai has led to changes in their attitudes towards mental health, while the results about knowledge and stigma were insignificant. A new blended program called SUTMP is being piloted in Sikkim, and the project is expected to improve mental health literacy and resilience of senior secondary students.

Health-Promoting Schools & School Health Services (n=3)

Inconclusive national research regarding peer educators and adolescents involved in the RKSK programme suggests that greater involvement with its peer education aspects is associated with improvement in nutrition- and NCD-related knowledge and practices. This stresses the necessity to put health promotion components within the existing framework of governmental programmes for adolescent health. A systematic review of DRR strategies trends in schools in India demonstrates that the country has developed quite effective infrastructure for DRR policy – such as the CBSE Disaster Management Course and the National School Safety Policy. However, very few studies prove that students' resilience has improved. A comparative study of the knowledge and attitude of school teachers concerning health services revealed a considerable gap in the teachers' training in both rural (10.4% trained) and urban areas (7.6% trained), with teachers having the feeling of high responsibility for the students' well-being (Sharma & Patel, 2024; Mishra & Sen, 2021).

Health Literacy & Nutrition (n=3)

According to a qualitative study evaluating the Mid-Day Meal (MDM) scheme, the parent and teacher knowledge of its nutritional objectives is limited, suggesting the need for better communication and engagement of involved stakeholders (Kulkarni et al., 2024). The quasi-experimental intervention relating to micronutrient literacy among schoolchildren in Mumbai, based on the intervention mapping framework, achieved significant improvement in the knowledge about micronutrients and healthy food practices over the ten weeks. A comprehensive cross-sectional study conducted in five Indian states with the help of the Health Literacy for School-Aged Children tool showed that 72.6% of young people had moderate health literacy, but girls and students studying in vernacular schools scored higher, indicating the gap in health literacy as a whole and among certain population groups.

Hygiene & Menstrual Health (n=4)

Numerous studies of menstrual hygiene management (MHM) in Gujarat, Maharashtra and the rest of rural India have pointed to significant shortcomings when it comes to knowledge, as almost half of the respondents in Saurashtra and about three-quarters of respondents in rural Wardha confirmed their lack of adequate knowledge of MHM, with education of parents, presence of latrines and prior knowledge being the main indicators of adequate practice (Thakre et al., 2023). A systematic study of MHM initiatives in rural India has proven that initiatives focused on schools and peer-led education make a positive impact on MHM knowledge and practice. An evaluation of a particular MHM education project in the rural areas has demonstrated that it is possible to eliminate most common misconceptions through this kind of programme (Sharma & Paul, 2022; Joseph & Thomas, 2024).

Sexual & Reproductive Health Education (n=3)

Research focused on teachers' views about sexual and reproductive health (SRH) education is sparse but convergent in its conclusions (Sivakami et al., 2021). For example, a survey of secondary school teachers in South India has shown that very few have had any exposure to SRH education, and cultural limitations and lack of resources were pointed out as major barriers. Similarly, a qualitative study conducted with teachers in Eastern India identified sexual education as a 'double-edged sword,' raising its importance but emphasizing the obstacles to its teaching, such as a lack of relevant subjects in the curriculum (puberty, menstruation, safe sex, etc.) and calling for training for teachers and work with the community (Bansal & Bhatia, 2024). Furthermore, a study about adolescents' awareness of HIV/AIDS covered under the Adolescent Education Programme in Assam showed significant gaps in adolescents'

knowledge that could be addressed through enhancing the HIV/AIDs component and life skills aspect of the programme.

NEP 2020 & Policy (n=3)

Experts analyzing the NEP 2020 policy seem to agree that it incorporates health, nutrition, and physical well-being into the formal curriculum through methods such as the formation of the Wellness and Health Clubs, compulsory health check-ups and cards, no bag days, and an adaptable physical education and yoga syllabus (Observer Research Foundation, 2024; Shastri, 2022; Ministry of Education, 2020). The examination carried out after five years found that although initial steps have been taken, the application process is inconsistent across various states. A thorough assessment of the yoga/health/PE issue revealed that even though the policy creates a real paradigm shift toward comprehensive development, limited resources and insufficient teacher training prevent it from having a bigger effect.

Table 2 summarises all 37 included studies by thematic category, setting and key finding.

Table 2: **Summary of Included Studies**

Category / Focus	Setting	Representative Study	Key Findings
Health Education	Rural Ballabgarh, North India	Kaur S (2014)	Intervention schools showed significantly greater adoption of tobacco, physical activity, and healthy food policies than control schools.
Health Education	Chandigarh (protocol)	Kaur S (2022)	Protocol paper – no outcome conclusions yet; intervention designed to reduce chronic disease risk-factor prevalence
Health Education	Shimla, Himachal Pradesh	Mahajan A (2022)	Intervention improved awareness and practice of healthy lifestyle behaviours and favourably affected some cardiometabolic risk factors.
Health Education	Mumbai, Maharashtra	Mumbai Hygiene Study (n.d.)	Knowledge, attitude and practice scores improved significantly more in the intervention group than the comparison group from baseline to end-line
Health Education	Southern Rajasthan	Rajasthan Hygiene Study (2019)	The study highlighted gaps in personal hygiene knowledge and practice among rural school students, underscoring the need for structured school health education.
Health Education	Ujjain district, Madhya Pradesh	Mushota O (2021)	The WASH educational intervention significantly improved students' knowledge on diarrhoea prevention and management.
Health Education	Central India (Vidarbha)	Sinha S (2022)	The structured oral health education programme improved oral health awareness and knowledge among school-going children in Central India.
Health Education	Southern Indian district	Southern India Anti-Tobacco Perceptions Study (2026)	Both adolescents and teachers identified gaps in current anti-tobacco education and suggested ways to make it more interactive and sustained

Health Education	India (systematic review, 2000–2020)	Tobacco Prevention Systematic Review (2022)	School-based tobacco prevention programmes in India show generally positive outcomes but suffer from significant methodological limitations.
Health Education	Rural Maharashtra	Maharashtra Tobacco Study (2025)	School-based anti-tobacco education intervention improved awareness and attitudes among rural school children.
Health Education	Rural Thiruvananthapuram, Kerala	Kerala Tobacco Study (2016)	School-based antitobacco awareness programmes enhanced students' knowledge of tobacco hazards.
Health Education	10 cities, pan-India survey	National Substance-Use Survey (2023)	15.1% of school-going adolescents reported lifetime substance use; tobacco and alcohol were most common, indicating need for school-based prevention.
Health Education	Ahmedabad, Gujarat	Ahmedabad Tobacco Study (2018)	Substantial knowledge gaps about tobacco and areca-nut harms exist among school children, supporting the need for structured tobacco/areca-nut education.
Mental Health & Life Skills	India (scoping review)	Mental Health Scoping Review (2022)	Most school-based interventions in India centre on life-skills education; fewer directly target clinical mental health outcomes
Mental Health & Life Skills	Urban Puducherry	Puducherry Life-Skills Study (2023)	LSE positively affected adolescents' socio-emotional functioning; teachers viewed LSE positively; longer exposure needed for discernible change
Mental Health & Life Skills	India (narrative review)	School Mental Health Status Review (n.d.)	Indian school mental health programs mostly target small groups rather than whole-school approaches; evidence base for effectiveness remains limited.
Mental Health & Life Skills	India (policy/programmatic review)	School Mental Health Scenario Review (2025)	Multiple national initiatives (NEP 2020, Rashtriya Kishore Swasthya Karyakram, Adolescent Education Programme) increasingly prioritize integration of mental health in schools, but…
Mental Health & Life Skills	Udupi, Karnataka	South India Life-Skills Study (2024)	Gender differences exist in life-skills proficiency, suggesting need for tailored, gender-sensitive interventions.
Mental Health & Life Skills	5 sites, pan-India (Magic Bus)	Magic Bus C2L Study (2025)	Life-skills interventions can improve school attendance, self-efficacy, resilience and gender attitudes among adolescents.
Mental Health & Life Skills	Chennai, Tamil Nadu	Kumar MS (2024)	Combining MHL curriculum with contact-based education improved attitudes toward mental health, though knowledge and stigma changes were not significant.
Mental Health & Life Skills	Sikkim (protocol)	SUTMP Sikkim Study (2024)	Protocol anticipates that peer-led, blended MHL programmes will increase literacy and resilience among adolescents.

Health-Promoting Schools	Pan-India (RKSK survey)	RKSK Peer-Educator KAP Study (2024)	Greater engagement with RKSK and its peer-education programme was positively associated with better nutrition- and NCD-related practices among adolescents.
Health-Promoting Schools	India (systematic review)	School DRR Systematic Review (2025)	India has developed substantial DRR policy infrastructure for schools (CBSE disaster-management curriculum, National School Safety Policy, 2024 CBSE teacher's manual), but evidence on…
Health-Promoting Schools	Rural & urban India (comparative)	Teacher KAP Study (School Health Services) (2023)	Training gaps exist for both rural (10.4%) and urban (7.6%) teachers; strong perceived responsibility for health education despite low training.
Health Literacy & Nutrition	Raigad district, Maharashtra	Kulkarni R (2025)	Significant gaps exist in stakeholder awareness of the MDM scheme's dietary goals and its role in children's development; better communication and structured stakeholder involvement are…
Health Literacy & Nutrition	Mumbai, Maharashtra	Mumbai Micronutrient Literacy Study (2026)	The 10-week Intervention-Mapping-guided programme significantly improved micronutrient literacy and healthy dietary intentions.
Health Literacy & Nutrition	5 Indian states (multi-state)	Usha Rani (2025)	72.6% of adolescents had moderate health literacy; girls and vernacular-medium students showed higher HL, highlighting the need for targeted school health-literacy curricula.
Hygiene & Menstrual Health	Saurashtra region, Gujarat	Saurashtra MHM Study (2024)	Nearly half the girls had poor menstrual hygiene knowledge; age, parental education, latrine access and knowledge predicted good practices.
Hygiene & Menstrual Health	Wardha district, Maharashtra	Wardha MHM Study (2023)	Significant knowledge and practice gaps found (74.8% lacked prior understanding); targeted health education needed.
Hygiene & Menstrual Health	Rural India (systematic review)	MHH Systematic Review (2026)	School-based and peer-led MHH interventions significantly improve knowledge and practices, though rural gaps persist.
Hygiene & Menstrual Health	Rural India	Rural MHH Programme Study (2024)	Menstrual hygiene misconceptions were common at baseline; the education programme improved knowledge and practice.
Sexual	Kamrup (Metro), Assam	Habib A (2024)	The study assessed adolescents' HIV/AIDS knowledge and attitudes to inform strengthening of the Adolescent Education Programme's HIV-related content and life-skills components.

Sexual	South India (18 schools)	South India RHE Teachers Study (2021)	Only a minority of teachers were trained in RHE; cultural barriers and inadequate resources hinder implementation; training and better resourcing recommended.
Sexual	Odisha (Eastern India)	Odisha SRH Teachers Study (2025)	Curriculum gaps exclude essential SRH topics (puberty, menstrual hygiene, safe sex); comprehensive SRH education, teacher training and community engagement recommended.
NEP 2020 & Policy	India (policy commentary)	ORF NEP Health Mandates Commentary (2025)	Early implementation steps have been taken, but gaps in execution continue to hinder the promise of holistic student wellbeing envisioned under NEP 2020
NEP 2020 & Policy	India (policy commentary)	POSHAN NEP Commentary (2020)	NEP 2020 places high priority on children's health and nourishment, integrating physical activity and wellness into the core curriculum
NEP 2020 & Policy	India (policy book chapter)	Yoga & PE NEP Book Chapter (n.d.)	NEP 2020's emphasis on yoga, health and physical education marks a paradigm shift from cognitive-only to holistic development, but implementation faces resource and training challenges

Author's compilation

The overall analysis indicates that the research is largely focused on knowledge, attitude, and practice outcomes of brief interventions, while opportunities to assess enduring changes in behavior and implementation of interventions at the level of the whole school are rarely explored. Figure 2 presents data on the distribution of the 37 studies across the seven categories, confirming that traditional health education delivery remains the most written-about area, along with mental health/life skills development, whereas NEP 2020-related studies are comparatively scarce.

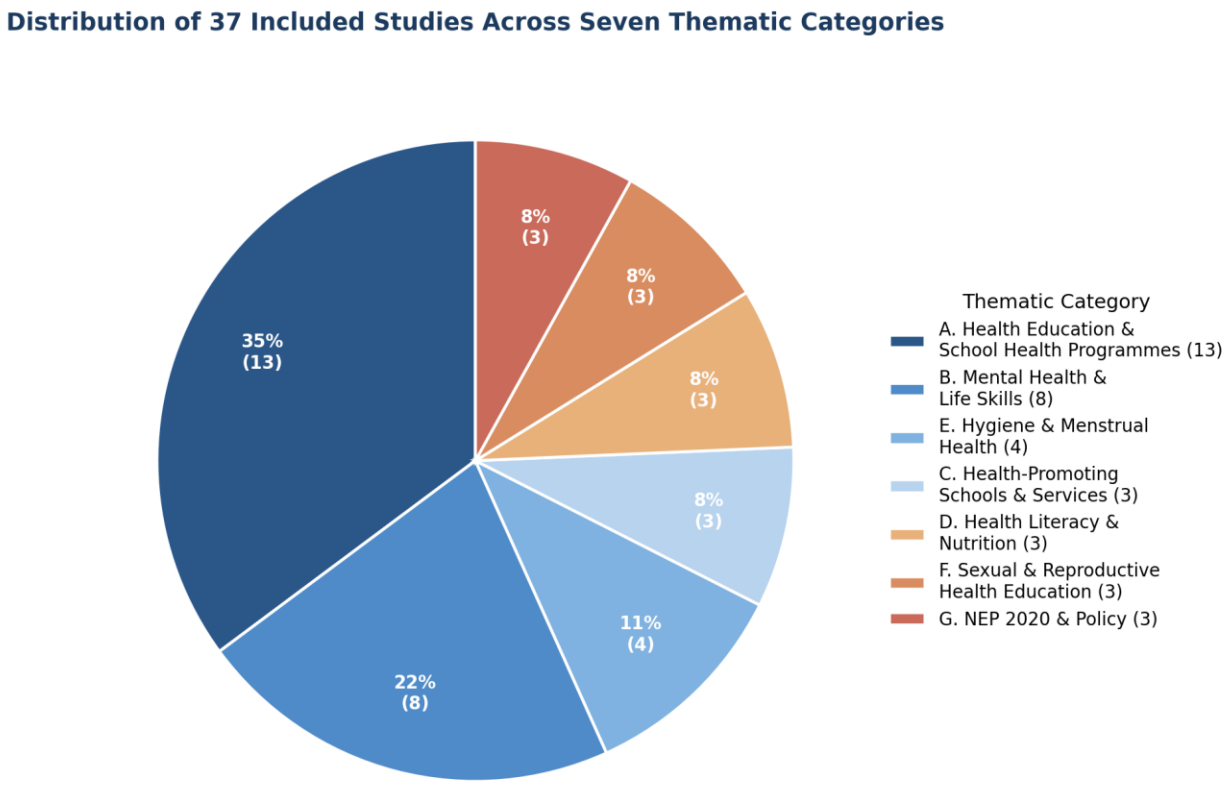


Figure 2: **Distribution of the 37 included studies across seven thematic categories**

DISCUSSION

Opportunities Created by NEP 2020

NEP 2020 provides many structural opportunities filled by a good evidence base reviewed here. First of all, the establishment of Health and Wellness Ambassadors and Health and Wellness Clubs in every school creates an institutional home for the kind of structured, curriculum-linked programs that achieved the best outcomes in the current review, i.e., multi-component NCD-prevention and hygiene practices [1,2,3,4,6]. Second, the incorporation of yoga, physical education, and life skills into the main (as opposed to extra-curricular) curriculum directly correlates with the obtained evidence that life skills education improves socio-emotional functioning and resilience among adolescents as compared to those who didn't receive this experience (Verma & Joseph, 2024). Third, shifting attention towards nutrition in the foundational stage and connecting it with programs like Mid-Day Meal creates an entry point for the implementation of the intervention-mapping-based micronutrient literacy program that proved to be effective in Mumbai [26] only after addressing the issues revealed by the MDM research.

Implementation Challenges

The synthesis identifies four recurring implementation challenges against the backdrop of these possibilities. The first challenge is expressed in the form of teacher capacity. It is due to research on school health service knowledge, anti-tobacco education, and SRH education, which returns the finding that a high percentage of teachers did not practice sufficient training [24], and only a few have been trained [33], despite teachers being aware of the need to conduct an effective educational process in these areas. The second implementation challenge has to do with rural-urban and

gender disparity. Research on hygiene, health literacy, and life skills shows less baseline knowledge concerning these issues among rural women in comparison to the urban population (Das & Ghosh, 2023), stressing the danger of widespread implementation of the NEP 2020 initiatives without taking into account the peculiarities of rural areas. The third issue is the cultural sensitivities associated with discussing issues like menstruation and sexual and reproductive health. In fact, while qualitative studies in Eastern India have shown how sexuality education is contentious, especially due to its absence from the curriculum, the same researchers believe that attitudes towards it must be pretty positive among instructors [34]. However, research on menstrual hygiene has found that many stereotypes about menstruation persist; thus long-term educational intervention is crucial [28,30,31] .The fourth issue is the gap between the evidence and the policy: the review of the NEP 2020 has admitted that the system of school health cafes has been developed on paper, however, the implementation has not been necessarily successful [35]; moreover, systematic analysis of the DRR interventions in schools proves that it is possible to have a regulatory framework in place but it may not lead to the achievement of outcomes [23].

One other concept is measurement: the vast majority of works examined make use of self-reported information, attitude, and behaviour (KAP) tools utilized shortly after an intervening program, and only a few research papers assess the long-term outcomes [3,7,10,11]. Several scientific publications state that this is a limitation and require the use of outcome measures that will last substantially longer, such as biological or behavioural measures [1,3]. This reiterates the general point highlighted by the mental health literature, where the analysis showed that Indian school programs rarely use any measures validating the effectiveness of mental health programs [14], while one of the mental health experiments conducted in Chennai proved that only attitudes changed but not the corresponding changes in terms of knowledge or stigmatisation of patients [20].

Policy Recommendations

Drawing on the synthesised evidence, the following recommendations are proposed to strengthen the implementation of health education under NEP 2020:

- Implement the role of Health and Wellness Ambassador through a structured pre- and in-service education process rather than treating it as an addition to the workload of some teacher without any training.
- Create a standardised age-appropriate Health Education curriculum covering non-communicable disease prevention, hygiene/WASH, oral health, tobacco/substance abuse prevention, mental health and life skills, nutrition, and menstruation/reproductive health to replace the fragmented project-based approach to the creation of the evidence base.
- Concentrate on rural and poor schools to ensure the introduction of the Health and Wellness Club in this milieu, as rural samples have constantly shown larger gaps in knowledge and practices in the area of hygiene, health literacy, and life skills.
- Introduce menstrual hygiene/sexual and reproductive health education as one of the areas in the core curriculum, accompanied by teacher training and community-sensitisation elements to remove the cultural and curricular barriers pointed out by teachers.
- Instead of developing alternative delivery systems, connect school health education to present adolescent health structures (RKSK, Adolescent Education Programme, Mid-Day Meal Scheme) based on evidence from peer education programmes through RKSK, which indicates improvements in health and nutrition practices.

- Develop a national school health monitoring and evaluation system, creating standard indicators and regular third-party evaluation to address the evidence-policy gap identified in NEP 2020 health measures' five-year screening.

- Invest in longitudinal research studies focused on behaviour validation instead of short KAP studies to evaluate the effects of school health education on behavioural change and health results.

- Embed school disaster risk education into the Health and Wellness Club framework by using the National School Safety Policy and the existing CBSE courses, with the outcome evaluation identified as a gap in current DRR studies.

CONCLUSION

According to this systematic review that encompasses 37 school-based health education studies in India, NEP 2020 presents a genuine opportunity as it has embedded health, nutrition, yoga, physical education, and life skills into the formal Indian academic system (Singh & Verma, 2024). The evidence shows that the use of structured curriculum-based interventions contributes to the effective targeting of non-communicable disease risk factors and personal and menstrual hygiene, as well as to improving oral health, decreasing tobacco consumption, and promoting socio-emotional skills among students. Nevertheless, the evidence indicates that this opportunity will not result in an automatic effect because teacher training is inadequate, rural and gender-based inequalities are still prevalent, and sensitive issues, such as those related to reproductive health, do not get enough attention during lessons, while monitoring the implementation of NEP is not yet in place, even though five years have already passed since the start of the initiative. To turn the vision of the initiative into reality, schools in India will need more resources and greater effort to implement teacher training programs, standardize teaching materials, and evaluate how the health initiative is implemented.

Limitations and Future Research

This review has various limitations. Firstly, the studies included differ in terms of methodology, geographical coverage, sample size, and study design. For instance, some studies are large cluster-randomised studies while others are small qualitative studies. As a result, the comparison between them is not possible, and the meta-analysis cannot be conducted. Secondly, most of the studies are conducted using either cross-sectional studies or studies with pre-test and post-test but rely on self-reported questionnaires to measure results, which means that it is unclear whether the gained knowledge and attitudes lead to the behaviour change of the subjects. Thirdly, some of the studies found during the literature review had to be verified for publication year and relevance within the context of the NEP 2020, as they were related either to general yoga in schools or were focused on HIV/AIDS awareness based on other surveys. Thus, the studies had to be excluded from the review.

Future studies should place importance on engaging in long-term and multi-faceted research that investigates exposure to health education via certain channels specified in the NEP 2020 programme (Health and Wellness Clubs, Ambassador-led delivery) and compares the results with long-term physical or academic outcomes. It is essential to pay special attention to studies conducted in rural areas and gender-specific sub-groups.

AUTHOR DECLARATIONS

CRediT Author Statement / Author Contributions

Weam Ahmed Mohammad Mari: Conceived the study, designed the research framework, collected and analyzed bibliometric data using relevant software, interpreted findings, prepared visualizations, and wrote the first draft of the manuscript.

Mehvish Siddique: Provided methodological guidance, supervised the research process, reviewed the analysis, and critically revised the manuscript.
Pooja Sharma: Contributed to research design refinement, validated findings, provided scholarly feedback, and critically reviewed the manuscript.

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