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Gap Analysis of Human Health Care Content in the Single National Curriculum(2020) General Science Textbooks for Grade 6-8 Published by the Khyber Pakhtunkhwa Textbook Board

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Abstract: *Textbooks remain the main instructional resource in Pakistani elementary classrooms, yet little is known about where their health content falls short. To identify gaps and areas for improvement in the human health care content of General Science textbooks for Grades 6-8 developed under the Single National Curriculum (SNC) 2020 and published by the Khyber Pakhtunkhwa Textbook Board (KPTB). A qualitative content analysis was conducted on three textbooks (568 pages; 36 chapters). A researcher-developed checklist covering five categories (Personal Hygiene, Food and Healthy Diet, Human Body Systems, Disease Prevention, and Health and Lifestyle Practices) was scored from 0 (absent) to 3 (comprehensive). Gap scores (3 minus the coverage score) were computed, and page-referenced narrative evidence was synthesized thematically. Findings of 45 available coverage points, 16 (35.6%) were unmet. Gaps clustered in Personal Hygiene and Health and Lifestyle Practices (5 points each) and Food and Healthy Diet (4 points), which was entirely absent from Grade 7. Six gap themes emerged: a broken nutrition progression; shallow, non-procedural hygiene content; limited attention to contemporary lifestyle issues (mental health, sleep, screen time, substance use); thin first aid and emergency care; scarce practical activities and step-by-step visuals; and repetition without reinforcement. Human Body Systems showed no gap, and content was judged age-appropriate. There for this study concluded that textbooks are scientifically sound but behaviorally thin. A balanced spiral health strand, a dedicated lifestyle and well-being unit, practical first aid content, and activity-rich pedagogical features are recommended, supported by a periodic textbook review cycle.*

Introduction

School health as a curricular responsibility

Schools reach children during the years in which many health-related habits are formed, which is why education and health systems increasingly treat school health as a shared responsibility (UNESCO et al., 2023; World Health Organization [WHO] & UNESCO, 2021). Evidence reviews connect better health and nutrition with school attendance, concentration and academic achievement (Basch, 2011; Michael et al., 2015), and a Cochrane review of the WHO Health Promoting School framework reported improvements

in outcomes such as body mass index, physical activity, tobacco use and bullying (Langford et al., 2014). Kolbe (2019) goes further and argues that school health is a strategy for improving both public health and education. The global standards for health-promoting schools accordingly treat the school curriculum as one of the domains through which health and well-being are promoted (WHO & UNESCO, 2021).

A health curriculum is more than a "sending out of facts". According to Nutbeam (2000) and Nutbeam and Lloyd (2021), health literacy is defined as the knowledge, skills and confidence to act on health information. In a school setting, Paakkari and Paakkari (2012) define health literacy as an outcome of learning, consisting of theoretical knowledge, practical knowledge, critical thinking, self-awareness and citizenship. It is important to consider this framing when analyzing textbooks for physiology: a book could be suitable for knowledge, but not for developing the necessary practical and critical skills that health education is designed to provide.

Textbooks, content coverage and gap analysis

In many low- and middle-income settings, the textbook is the curriculum as most teachers and learners actually experience it, so what a textbook includes, omits or treats superficially largely determines what is taught. Content analysis is a well-established way of examining such materials because it supports systematic and replicable inferences from text (Krippendorff, 2018; Hsieh & Shannon, 2005). Nomoto et al. (2011) reviewed 14 studies that analyzed health content in elementary, junior high or high school textbooks and concluded that some textbooks provide insufficient content and contain inaccurate or out-of-date health information, with the topics studied concentrated on sexuality, HIV/AIDS and nutrition. Studies of science textbooks echo this uneven picture. In India, nutrition and food safety content in science textbooks was low, nutrition was omitted from later grades, and nutrition topics in the middle grades were repetitive and inconsistent (Subba Rao et al., 2012). A comparison of biology textbooks in the United States and Singapore found that food and nutrition appeared least often among the health fields examined, and recommended wider coverage of environmental health and nutrition (Aldossari, 2021).

A gap analysis extends descriptive coverage studies by asking what is missing relative to what a curriculum should contain. Instruments such as the Health Education Curriculum Analysis Tool (Centers for Disease Control and Prevention [CDC], 2021) show how expected content and skills can be specified so that omissions become visible and actionable. Gap analysis also needs a principle for judging progression. Bruner's (1960) spiral curriculum, in which key ideas are revisited at increasing levels of sophistication, offers one; Harden and Stamper (1999) summaries its defining features as topics revisited, increasing complexity, and integration of new learning with earlier learning. Under this principle, a health strand that appears in one grade, disappears in the next and returns later is a structural weakness even if each appearance is accurate.

Contemporary health topics and the case for broader coverage

Early adolescence is a period of rapid biological and social change in which many health behaviors consolidate (Sawyer et al., 2018), which makes Grades 6-8 an important window for health education. Four areas deserve particular attention because they are frequently under-represented in science-led health content. First, mental health: schools are recognised settings for mental health promotion and prevention (Fazel et al., 2014; WHO, 2020), there is evidence on mental health promotion for young people in low- and middle-income countries (Barry et al., 2013), and mental health literacy, defined as knowledge and beliefs that aid recognition, management and prevention, is a recognized educational aim (Kutcher et al., 2016). Second, screen use: a systematic review of reviews linked higher screen time

with adverse health and well-being outcomes in children and adolescents, although the quality of evidence varied (Stiglic & Viner, 2019). Third, sleep: insufficient sleep in adolescents has well-documented consequences for health and functioning (Owens, 2014). Fourth, physical activity: a large majority of adolescents worldwide do not meet recommended activity levels (Guthold et al., 2020). First aid is a further practical competency; international experience with training school children in resuscitation shows that basic emergency skills can be taught in schools (Böttiger & Van Aken, 2015).

The Pakistani context

For the implementation of the Single National Curriculum, Pakistan has started the process in 2021 and will begin accepting it in public, private and religious schools simultaneously from 2020 onwards. The implementation studies identify capacity, resource and consistency to be barriers (Jan et al., 2023). The textbooks that implement the curriculum in the province are prepared by the textbook boards of individual provinces, e.g. the Khyber Pakhtunkhwa Textbook Board. The quality of health content in school is important, as the 2018 National Nutrition Survey revealed a continued high burden of child under nutrition (Aga Khan University et al., 2019). Notwithstanding this, little literature exists that addresses the distribution of human health care content in the general Science textbooks for elementary school students, and even less that explores the lack of human health care content in these textbooks.

Rationale

Taken together, the literature suggests that (a) health content in science textbooks is often uneven across topics and grades, (b) contemporary adolescent health issues are often thinly covered, and (c) health literacy requires practical and critical competencies that text-heavy, science-led treatment may not build. Whether these concerns apply to the SNC General Science textbooks for Grades 6-8 has not been established. The present article addresses this by reporting a focused gap analysis. It forms part of a larger study; the coverage scores analyzed here are the same dataset used to report the extent and cross-grade comparison of health content in two companion articles Jan et al., 2023, whereas the present article concentrates exclusively on gaps and areas for improvement.

Research Objective

To identify gaps and areas for improvement in the human health care content of the General Science textbooks for Grades 6, 7 and 8 developed under the Single National Curriculum (2020) and published by the Khyber Pakhtunkhwa Textbook Board.

Research Question

What gaps exist in the human health care content of the Single National Curriculum (2020) General Science textbooks for Grades 6, 7 and 8, and which areas of the content should be prioritized for improvement?

Methodology

Research Design

In this study, qualitative, comparative content analysis design is used. The comparative aspect of this design in particular allows for a grade to grade assessment of the amount of health content across the elementary sequence to determine if coverage is increasing, decreasing, or remaining constant.

Population of the Study

The population includes all General Science textbooks prepared in SNC (2022) for elementary level (Grades 6-8) from Pakistan.

Sample and Sampling Technique

The three General Science textbooks selected for the purpose of the study were the officially approved

textbooks published by Khyber Pakhtunkhwa Textbook Board (KPTB) using purposive sampling technique and these were for Grades 6, 7, and 8. This selection enables comparison directly from grade to grade throughout the entire elementary program with the current, official editions.

Research Instrument

The same structured content analysis checklist was used as in the descriptive phase of this research with five categories scored 0-3 per grade: Personal Hygiene, Food and Healthy Diet, Human Body Systems, Disease Prevention, and Health and Lifestyle Practices.

Data Collection Procedure

The textbooks were examined on a chapter-by-chapter basis and health-related chapters were coded by their respective chapter. For comparison, scores were tallied grade by grade and percentage coverage was determined for each grade and for the three-grade sequence.

Data Analysis Technique

Comparative thematic content analysis was used to analyze the data. This analysis also looked at how the scores for each category changed between Grade 6 and Grade 7 and Grade 8, categorizing the trajectory of each category as progressive (increasing coverage), fluctuating (inconsistent, non-linear coverage), stable (constant coverage), or absent/declining.

Table 1. Coverage scores (0-3) and gap points by category and grade

Category	Grade 6	Grade 7	Grade 8	Total (max 9)	Category gap points	Share of all gap points
Personal Hygiene	1	1	2	4	**5**	31.3%
Food and Healthy Diet	3	0	2	5	**4**	25.0%
Human Body Systems	3	3	3	9	0	0.0%
Disease Prevention	2	3	2	7	2	12.5%
Health and Lifestyle Practices	1	1	2	4	**5**	31.3%
Total coverage score (max 15 per grade)	**10**	**8**	**11**	**29 / 45**		
Gap points (3 minus score, summed)	**5**	**7**	**4**		**16 / 45**	**100%**

Note. Cell shading shows the coverage score: 3 (comprehensive), 2 (moderate), 1 (brief mention), 0 (absent). Gap points = 3 minus coverage score. Source: authors' analysis of KPTB General Science textbooks, Grades 6–8.

Gap themes

The following six gap themes were identified. A broken progression in Food and Healthy Diet, Shallow and non-procedural Personal Hygiene content, limited attention to contemporary lifestyle and well-being issues, Thin first aid and emergency care, Few practical activities, real-life examples and step-by-step visuals and Repetition without reinforcement, and weak currency and integration. Table 2 summarizes them with their textual evidence, and the sections below elaborate on each. Strengths are also reported, because they define the boundary of the gaps.

A broken progression in Food and Healthy Diet

The most severe single gap was the complete absence of Food and Healthy Diet content from the Grade 7 textbook (score 0; no chapter or page reference could be recorded). The strand scored 3 in Grade 6,

where Chapter 3 (pp. 23-36) explains nutrients, balanced diet, food groups and the importance of water in detail, and 2 in Grade 8, where healthy food and the role of helpful bacteria in digestion are treated briefly in Chapter 1 (p. 8) and Chapter 4 (pp. 46-49), with biotechnology linked to food quality and nutrition. The pattern 3-0-2 means that learners receive a thorough introduction, then no nutrition content for a full year, and then a partial and mostly science-oriented return. Nutrition is therefore not revisited at increasing complexity during the very years in which adolescent dietary choices begin to form, and the later treatment is brief and linked mainly to digestion and biotechnology.

Shallow and non-procedural Personal Hygiene content

Personal Hygiene (1.33) was the lowest along with Health and Lifestyle Practices averaging 1.33. In Grade 6, however, hygiene only comes up in passing, as part of a discussion about clean water and food safety (Chapter 3, p. 23-36; Chapter 4, pp. Not presented as a discrete topic (37-44), and not discussed as part of routine practices such as hand washing, tooth brushing, bathing or nail and hair care. During Grade 7, hygiene is mentioned briefly (Chapter 3, p. 36) and not very relevant to students' personal practices. Grade 8: Stronger (score 2), but narrow: hygiene explained primarily in terms of tooth care and use of soap and toothpaste (Chapter 7, p. 102; Chapter 11, pp. 170-171), with a few simple activities. Throughout the three books the topic of hygiene is mentioned but not shown, and there are no illustrations showing how to do routine steps.

Limited attention to contemporary lifestyle and well-being issues

The mean score for Health and Lifestyle Practices was 1.33. Grade 6 only briefly addresses the area with a focus on healthy eating and physical fitness (Chapter 3) and does not cover mental health, screen time and sleep habits. The area is scored as 1 (Chapter 2, p. The key indicators (Exercise, Sleep, impact of screen time, smoking/drug abuse, safety rules, mental health awareness) are essentially not addressed and the checklist remarks reflect this. Grade 8 is complete (score 2): It has some tips on exercise, stress reduction, and electrical safety rules (Chapter 2, p. 27; Chapter 10, p. 159), but does not offer a detailed treatment of mental health and emotional well-being, and there is less coverage of screen time, sleep routines, and daily health habits. None of the grades had a developed topic of substance use prevention. This produces a lifestyle strand that gradually evolves over the grades and excludes the issues that are more relevant to today's young people.

Thin first aid and emergency care

The highest mean score was obtained in the disease prevention category (2.33), with its weakness being the practical aspect. This topic is introduced in Grade 6 primarily in terms of digestive disorders and how to prevent them, but not fully addressed with regard to causes of disease, vaccination, first aid or emergency care (2). Chapter 3 (pp. 124–125) received a grade of 3 for Disease Prevention at grade 7. A review of the content, which is summarized below, noted that first aid was still somewhat lacking in depth and comprehensive application despite the excellent explanations of causes, prevention, vaccination, and hygiene, along with types of disease that were covered (29-40). Grade 8 (score 2) describes vaccines and insulin and provides examples from first-aid, like cold packs and antacids (Chapter 4, pp. 51-52; Chapter 6, pp. 86-91; Chapter 7, pp. 102-106), without providing any step-by-step, practical instructions. First aid is thus referred to in all three grades but is not developed as a skill in any of the grades.

Few practical activities, real-life examples and step-by-step visuals

Content was strong in the science oriented visual and activity support and poor in the behavioral visual and activity support. Diagrams of digestive systems (Grade 6) and nervous system (Grade 8) were mentioned many times as effective with activities and simple explanations. Grade 6 had very few

activities and practical exercises related to real-life health care. At Grade 7 there were some diagrams and activities, however more interactive and practical activities, group work, real life examples and coloured charts were recommended. There were less activities in daily health care and hygiene for the Grade 8 as compared to science topics. The imbalance suggests that the pedagogical aspects of the textbooks are mainly oriented toward explaining the workings of the body and have little focus on how learners can take care of their body.

Repetition without reinforcement, and weak currency and integration

Multiple health topics come up again in several parts of the book across the various grades, but do not go deeper into the material or connect it to practice. There was repetition in grades 7 and 8 with some details in the earlier grades being reiterated succinctly and others added; some content was noted as needing to be brought up to date with more current information and activities. During Grade 6, a few health lessons were referred to more than once but not in detail. This is repetition that is not the type of repetition that is part of a spiral curriculum as it does not add complexity or link with previous learning (Harden & Stamper 1999).

Boundary conditions: areas without a gap

Two findings limit the interpretation of the gaps. First, Human Body Systems received the maximum score in all grades, with clear explanations, diagrams and activities (Grade 6 Chapter 4, pp. 37-44; Grade 7 Chapter 2, pp. 15-28; Grade 8 Chapter 2, pp. 17-30). Second, the content was judged age-appropriate in every grade: the language was simple and the topics matched the cognitive level of learners, with food and digestion suiting Grade 6, body systems and diseases Grade 7, and more complex topics such as the nervous system and biotechnology Grade 8. The gaps are therefore gaps of balance, depth, continuity and practicality, not of readability or developmental fit.

Table 2. Summary of gap themes with textual evidence

Gap theme	Grade(s)	Evidence from the textbooks	Severity
1.Broken nutrition progression	7 (also 6→8)	Food and healthy diet scored 3, 0 and 2 across grade 6-8; no content in grade 7; grade 8 coverage brief (ch.1 p.8;ch.4 pp.46-49).	Critical (Grade 7)
2.Shallow hygiene content	6, 7, 8	Hygiene embedded in water and food-safety discussion (G6 Ch. 3-4); one short reference in G7 (Ch. 3 p. 36); tooth care and soap only in G8 (Ch. 7 p. 102; Ch. 11 pp. 170-171).	Major (G6, G7); Moderate (G8)
3.Contemporary lifestyle topics	6, 7, 8	Mental health, sleep, screen time and substance use not developed in any grade; G8 includes exercise and stress-reduction tips only (Ch. 2 p. 27; Ch. 10 p. 159).	Major (G6, G7); Moderate (G8)
4.First aid and emergency care	6, 7, 8	Not explained in G6; present but lacking depth in G7 (Ch. 3 pp. 29-40); cold packs and antacids only in G8 (Ch. 4, 6, 7).	Moderate to major
5.Few activities and step-by-step visuals	6, 7, 8	Strong diagrams for digestive and nervous systems; few activities on daily health care (G6), need for more interactive tasks (G7), fewer hygiene activities (G8).	Moderate

Gap theme	Grade(s)	Evidence from the textbooks	Severity
6.Repetition without reinforcement	6, 7, 8	Health topics restated across chapters and grades without added depth or updated information.	Moderate

Note. Severity follows the gap rule in Section 3.5 (critical = absent; major = brief mention; moderate = moderately covered). G = Grade; Ch. = Chapter.

Grade-wise gap summary

Grade 6 (gap = 5 of 15). Strong on nutrition and the digestive system; major gaps in personal hygiene and lifestyle practices; first aid and emergency care not properly explained; very few real-life health activities. *Grade 7 (gap = 7 of 15).* The widest gap of the three grades, driven by the absence of Food and Healthy Diet, limited hygiene content and a lifestyle strand that scored only a brief mention; Disease Prevention was strong. *Grade 8 (gap = 4 of 15).* The most balanced book, with moderate coverage in four categories; remaining gaps concern mental and emotional well-being, sleep, screen time, hands-on first aid, and hygiene and lifestyle illustrations.

Areas for improvement

Table 3 converts each gap theme into an area for improvement, combining the suggestions recorded during the analysis with the health education literature. Priority reflects the severity and breadth of the gap (critical or multi-grade major gaps are high priority).

Table 3. Gap-to-improvement framework

Gap area	Recommended improvement	Priority	Grade focus
Nutrition progression	Add a dedicated Food and Healthy Diet unit to Grade 7 covering balanced diet, nutrients, junk food and the importance of water, designed as a bridge between the Grade 6 foundation and the Grade 8 applications (diet planning, food choices).	High	7 (then 6, 8)
Personal hygiene	Present hygiene as a discrete topic with step-by-step illustrations (hand washing, tooth brushing, bathing, nail and hair care) and simple demonstrations linked to daily routines.	High	6, 7
Lifestyle and well-being	Introduce an age-appropriate well-being strand covering exercise, sleep routines, screen use, substance-use prevention, safety, and basic mental health and emotional well-being, using relatable examples from Pakistani students' lives.	High	6, 7, 8
First aid and emergency care	Add a scaffold first aid component with scenarios and practical, step-by-step guidance, increasing in complexity across grades.	High	6, 8

Gap area	Recommended improvement	Priority	Grade focus
Pedagogical features	Increase activities, role plays, group tasks, projects, info graphics and colored visuals for health topics, and provide teacher guides with lesson plans and assessment tasks.	Medium	6, 7, 8
Review and coherence	Specify a health strand across Grades 6-8 so that repeated topics increase in depth, update outdated content, and review textbooks periodically against a curriculum analysis tool.	Medium	All

Discussion

Principal findings

This study set out to identify what is missing from the human health care content of the SNC General Science textbooks for Grades 6–8. The main finding is that the gaps are concentrated and patterned rather than random. More than a third of the available coverage points were unmet, and 10 of the 16 unmet points (62.5%) lay in two behavioural categories, Personal Hygiene and Health and Lifestyle Practices. At the same time, Human Body Systems was complete in every grade and the content was age-appropriate. The textbooks appear to be built to explain biology; they are much less well built to develop health behaviours.

A knowledge rich, skills-light profile

The pattern fits the distinction between knowing about health and being health literate. Paakkari and Paakkari (2012) describe a school health literacy outcome that includes practical knowledge, critical thinking and self-awareness in addition to theoretical knowledge, and Nutbeam and Lloyd (2021) emphasise skills and confidence to act on information. A textbook strong in body-system explanations and weak in procedural hygiene, lifestyle decision-making and first aid supplies the first component but little of the others. This resembles findings from other settings: the review by Nomoto et al. (2011) concluded that some textbooks provide insufficient health content, and the Indian science textbook analysis found that nutrition and food safety content was low (Subba Rao et al., 2012). The present results suggest that the SNC textbooks inherit the same structural tendency of science-led health content, even though the curriculum aims to link science with everyday life.

Discontinuity in nutrition

The absence of nutrition content from Grade 7 is the clearest violation of the progression principle that underlies a spiral curriculum (Bruner, 1960; Harden & Stamper, 1999). It is also consistent with the Indian finding that nutrition topics were omitted in later grades and were repetitive and inconsistent in the middle grades (Subba Rao et al., 2012), and with the observation that nutrition receives comparatively little attention in some biology textbooks (Aldossari, 2021). In a country where child undernutrition remains a major public health concern (Aga Khan University et al., 2019), a year without nutrition content at the start of adolescence is difficult to justify. The gap is cheap to fix relative to its importance: it requires an additional unit rather than a redesign.

Contemporary health topics

Mental health, sleep, screen use and substance use are not well covered or are weak in the textbooks, indicating that the textbooks are not up to date with the documented health concerns of adolescents. Mental health promotion is recognised as an important goal in schools (Fazel et al., 2014); mental health

literacy is an explicit educational objective (Kutcher et al., 2016); and education programmes to promote mental health have been investigated in LMICs (Barry et al., 2013). While the evidence regarding screen time and sleep is inconsistent and in some instances weak, it indicates potential risks of which learners need to be aware and act on (Owens, 2014; Stiglic & Viner, 2019). The authors of the textbook acknowledge the need but have not created it as a strand for Grade 8. This analysis is conducted focusing exclusively on text, so it is not possible to say how teachers approach these subjects in class; however, the textbook is silent on the topic and teachers are left with no curricular anchor.

Practical competencies and pedagogy

Hygiene and first aid are practical competencies and benefit from demonstration and rehearsal rather than description. Experience with school-based resuscitation training shows that practical emergency skills can be taught to children (Böttiger & Van Aken, 2015), and hygiene is routinely included among core school health interventions (UNESCO et al., 2023; WHO & UNESCO, 2021). The finding that diagrams and activities were concentrated in science topics and sparse in behavioral topics suggests that pedagogical investment follows content type. Evidence that active learning improves performance in science education (Freeman et al., 2014) supports redirecting some of this investment toward activity-based health content, although that evidence comes largely from higher education and should be read as indicative.

Implications for policy and practice

The framework in Table 3 has a number of implications. The biggest leverage change that curriculum developers and textbook boards will look to is the mapped health strand, which ensures that each health category is covered in each grade, at deeper levels, starting with the Grade 7 nutrition unit. A textbook authors unit on well-being and a first aid unit can be incorporated without compromising the robust content on the body systems, and step-by-step visuals can be developed from existing hygiene content. Teacher guides and teacher professional development would assist teacher educators and policy makers to support teachers in addressing practical and sensitive topics like Mental health. A structured analysis tool can be adapted to the periodic review of health content in provincial textbooks to identify the gaps in health knowledge that are being reported here, such as HECAT (CDC, 2021). Having textbooks that are consistent across provincial boards is part of the SNC's goal of consistent quality across institutions (Jan et al., 2023).

Limitations and directions for future research

Several limitations should be noted. The study analysed textbooks from one provincial board, so the findings may not generalise to other boards implementing the SNC. Analysis was limited to textbook content and did not capture classroom delivery or teacher and student perspectives; some gaps may be filled by teachers, and some content may not be taught as written. A single researcher scored the textbooks, so subjective bias is possible and inter-coder reliability was not assessed. The scoring scale is ordinal and based on judgment of depth rather than word or page counts, and a few narrative remarks recorded across grades were not fully consistent with one another; where this occurred, the page-referenced evidence and score tables were given precedence. Future research should compare health content across provincial boards, include inter-coder reliability and expert validation of the checklist, examine teachers' and learners' perceptions and classroom practice, assess whether textbook revisions based on these gaps improve knowledge and behavior, and examine alignment between SNC health learning outcomes, textbooks and assessments.

Conclusion

The Grades 6-8 General Science textbooks prepared based on the Single National Curriculum have

adequate and age appropriate coverage of body systems, but there are regular gaps in them in the behavioral and practical components of health education. 45 coverage points were not met, but 16 were. The most critical areas are the lack of Food and Healthy Diet content in Grade 7, insufficient and procedural hygiene content, limited content for contemporary lifestyle and well-being topics, and inadequate first aid content. This can be addressed by using a spiral strand within the health curriculum, a separate unit of work for wellbeing, incorporating practical first aid and hygiene content, pedagogically rich activities based on teacher guides and regular reviews of the text book. It would not only shift the textbooks' focus from health teaching to health literacy, but it would also align the lesson objectives with the learning needs of the Pakistani students.

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