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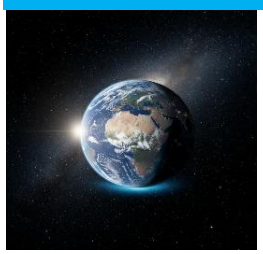

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Why Health Knowledge Does Not Translate into Health Behavior: Educational and Psychological Perspectives

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ABSTRACT

Despite the widespread availability of health-related information, adherence to health-promoting behaviors remains insufficient in many populations worldwide [1,2]. Research indicates that increasing health knowledge alone does not reliably lead to sustained lifestyle change, suggesting the presence of additional educational, psychological, and contextual determinants shaping health behavior [5,8,16]. The aim of this narrative review is to analyze why health knowledge frequently fails to translate into health-promoting action, with particular emphasis on educational and psychological perspectives [5,7]. Peer-reviewed literature indexed in PubMed and Scopus and publications issued by the World Health Organization were considered [1–3,10]. The reviewed evidence suggests that limited health literacy, low self-efficacy, motivational and emotional factors, habitual behavior patterns, and environmental constraints substantially moderate the relationship between knowledge and action [6,9,18–21,24–28]. These determinants are summarized in Table 1 and indicate that effective health education should move beyond information transfer and incorporate behavioral competencies, psychological support, and context-sensitive approaches to promote sustainable health behavior change [3,5,7,26–28].

Keywords: health education; health behavior; health literacy; psychology; behavior change

INTRODUCTION

Health education constitutes an important component of public health strategies aimed at improving population health and preventing disease [1–3]. Educational initiatives that promote healthy lifestyles are widely implemented in schools, universities, workplaces, and community settings, and they are typically designed to reduce exposure to modifiable risk factors through learning and awareness-building activities [2,3]. Traditionally, many health education programs have been based on the assumption that increasing health-related knowledge will encourage individuals to adopt healthier behaviors and maintain them over time [5]. Consequently, health education has often emphasized the provision of information regarding risk factors, preventive measures, and recommended lifestyle practices [4,5].

In recent decades, access to health information has increased substantially as a result of public health campaigns, institutional education, and the development of digital communication technologies [1,2]. International recommendations related to physical activity, sedentary behavior, and lifestyle risk reduction have been widely disseminated, strengthening public awareness of health-promoting practices [2]. Nevertheless, monitoring data indicate that adherence to recommended behaviors remains insufficient in many populations, suggesting that access to information alone has not ensured sustained lifestyle change [1,2]. This discrepancy highlights limitations of education strategies that rely primarily on information transmission [8].

This discrepancy between what individuals know about health and how they behave has been described in the literature as the *knowledge–behavior gap* [4,8]. Research in health education and health psychology indicates that knowledge is a necessary condition for informed decision-making, yet it is rarely sufficient to produce long-term behavior change [5,8]. Individuals may correctly identify health risks and recommended actions while simultaneously failing to implement them in everyday practice, particularly when psychological, social, or environmental barriers are present [8]. From an educational perspective, this phenomenon suggests that effective health promotion requires more than providing information and should consider broader determinants that influence whether knowledge can be translated into sustainable action [5,7].

An important concept related to the knowledge–behavior gap is health literacy, which refers not only to understanding health information but also to the ability to access, appraise, and apply such information in real-life contexts [4,6]. Evidence suggests that individuals may possess factual knowledge about health recommendations while lacking competencies required to implement them, including planning, evaluating available options, and adapting guidelines to daily constraints [6]. The World Health Organization emphasizes that health literacy is a key determinant of health and an important objective of health promotion strategies [1,3].

In addition to educational factors, psychological determinants play a significant role in shaping whether individuals act on health knowledge. Theoretical models emphasize the importance of constructs such as self-efficacy, motivation, perceived control, and intentions in determining the adoption and maintenance of health behaviors [9,11,13]. Self-efficacy, understood as an individual's belief in their capacity to perform a specific action, has been identified as a central predictor of successful behavior change, even when individuals have comparable levels of knowledge [9]. Moreover, intention formation and motivation do not guarantee consistent action, which suggests that educational interventions should address psychological mechanisms rather than focusing exclusively on cognitive knowledge [16,17]. Therefore, strengthening psychological readiness should be considered an essential element of health education practice aimed at reducing the knowledge–behavior gap [5,7,13].

Environmental and social conditions also influence the feasibility of translating health knowledge into practice. Structural barriers such as limited access to supportive infrastructure, unhealthy food environments, or time constraints may prevent individuals from implementing health recommendations regardless of their awareness and motivation [2]. The World Health Organization emphasizes that health behaviors are embedded in broader systems and that supportive environments are necessary to enable health-promoting choices [2]. Given the multifactorial nature of health behavior, narrative reviews provide a suitable approach for integrating evidence from education, psychology, and public health and for developing a coherent interpretative perspective on complex determinants of the knowledge–behavior gap [10].

It is worth noting that many health education interventions are implicitly based on a "knowledge deficit" model, in which unhealthy behavior is interpreted primarily as a result of insufficient information or limited awareness [5,8]. In this approach, providing correct recommendations is treated as the primary mechanism of change, while less attention is paid to the psychological and contextual conditions necessary for translating knowledge into practice [5]. However, contemporary health promotion frameworks emphasize that behavior is shaped by multiple interacting determinants and that effective education should address not only knowledge but also skills, confidence, and environmental feasibility [1,2,7]. This suggests that the persistence

of the knowledge–behavior gap may partly reflect the mismatch between traditional educational assumptions and the realities of behavior regulation in everyday life [8].

The increasing availability of digital health information has also changed the educational landscape in health promotion. Health-related content is now widely disseminated not only through formal education but also through online platforms, social media, and institutional campaigns, which can intensify exposure to recommendations and health messages [1,2]. However, greater exposure does not necessarily result in better health outcomes, particularly when individuals experience information overload, difficulties in evaluating credibility, or challenges in translating general recommendations into personalized actions [6]. In this context, health literacy becomes especially important, because it includes the capacity to critically appraise information and make decisions consistent with personal circumstances and health needs [4,6]. These observations reinforce the argument that effective health education should not be limited to transmitting information, but should also strengthen skills that support meaningful use of health knowledge in daily life [3,6].

In practice, translating health knowledge into behavior requires not only understanding recommendations but also the ability to incorporate them into routine life under real-world conditions. This process is influenced by behavioral skills, self-regulatory capacity, perceived control, and the extent to which social and physical environments support healthy choices [2,5]. For example, even well-informed individuals may fail to engage in physical activity or maintain healthy dietary habits if daily schedules, environmental constraints, or competing demands reduce feasibility of consistent action [2]. These considerations highlight that health education should be designed as a multidimensional process that integrates knowledge, competencies, and supportive contexts rather than as a one-directional informational intervention [1–3,5]. Therefore, a comprehensive synthesis of educational and psychological determinants is required to better understand the knowledge–behavior gap and to improve the effectiveness of health education practice [5,7,8].

Moreover, empirical findings indicate that structured health education programs implemented in early educational settings may positively influence selected health behaviors in children and adolescents, although behavioral sustainability depends on contextual and motivational factors [31]. Such findings support the broader interpretation that educational exposure alone does not automatically ensure long-term behavioral maintenance, which is consistent with the determinants discussed in this review [5,7].

AIM OF THE STUDY

The aim of this study is to analyze and synthesize existing scientific literature in order to explain why health knowledge does not consistently translate into health-promoting behavior [5,7,8]. The review focuses on educational and psychological determinants contributing to the knowledge–behavior gap, with particular attention to factors limiting the effectiveness of information-based health education approaches [4–6]. By integrating evidence from health education, psychology, and public health, this narrative review aims to provide a coherent interpretation of the mechanisms that shape the relationship between knowledge and action, as summarized in Table 1, and to highlight implications for improving health education practice and behavior-supportive interventions [2,3,5,7].

MATERIAL AND METHODS

This article was prepared as a narrative review of the scientific literature. The narrative review approach was selected because the knowledge–behavior gap represents a complex and multifactorial phenomenon involving educational, psychological, and contextual determinants that are not easily captured through quantitative synthesis alone [7,10]. Narrative reviews allow for broader conceptual integration and interpretative discussion across diverse sources, which is particularly relevant for topics located at the intersection of health education, psychology, and public health [10]. This approach supports the identification of key themes and explanatory mechanisms that may inform educational practice and health promotion strategies [5,7].

The literature search focused on peer-reviewed publications addressing health knowledge, health behavior, health education, health literacy, and psychological determinants of behavior change. Scientific databases including PubMed and Scopus were used as primary sources of literature, complemented by official reports and guidelines published by the World Health Organization [1–3]. These sources were selected due to their credibility and relevance to contemporary health promotion and educational strategies [1,2,5]. The search covered publications released between 2010 and 2024 and applied broad keyword combinations such as *health knowledge*, *health behavior*, *health education*, *health literacy*, *self-efficacy*, and *behavior change*, in order to capture evidence across disciplines [5,7,10].

Inclusion criteria comprised peer-reviewed articles published in English that addressed theoretical models, educational approaches, or psychological mechanisms relevant to the translation of health knowledge into behavior [5,7]. Studies focusing on different health domains and populations were considered in order to provide an integrative understanding of the knowledge–behavior gap in diverse contexts [5,8]. Exclusion criteria included non-peer-reviewed publications, sources lacking relevance to health education or behavior change, and texts not grounded in scientific evidence [10]. The identified literature was analyzed qualitatively, and recurring themes related to health literacy, self-efficacy, motivation, emotional factors, habitual behavior, and environmental constraints were extracted and synthesized, forming the thematic structure summarized in Table 1 [6,7,9].

RESULTS

The analysis of the reviewed literature indicates that the relationship between health knowledge and health behavior is complex and influenced by multiple interrelated determinants. Across studies in health education, psychology, and public health, a consistent finding emerges: possession of health-related knowledge does not necessarily lead to the adoption or maintenance of health-promoting behaviors [4,5,8]. This observation has been described as the knowledge–behavior gap and has been reported across different health behaviors, suggesting that additional mechanisms beyond cognitive knowledge influence everyday decisions and actions [4,5]. The reviewed evidence points to educational limitations, psychological factors, and contextual constraints as key contributors to this discrepancy [2,6,7]. The evidence synthesized in this section is therefore presented thematically, focusing on determinants that jointly shape behavioral outcomes and are later summarized in Table 1 [5,7].

One of the most frequently emphasized determinants contributing to the knowledge–behavior gap is limited health literacy. Although individuals may understand basic health information, many experience difficulties applying this knowledge in everyday situations, particularly when health-related decisions require interpretation, critical appraisal, or adaptation to personal circumstances [6]. Evidence indicates that limited health literacy is associated with lower

engagement in preventive behaviors and reduced adherence to recommendations, which may partly explain why educational interventions based solely on knowledge transfer often have limited outcomes [1,3,6]. These findings support the view that effective health education should not only provide information but also strengthen competencies enabling individuals to use health information in daily life [4,6].

Psychological determinants were also consistently identified as key moderators of the translation of knowledge into action. Numerous studies highlight the importance of self-efficacy, defined as an individual's belief in their ability to successfully perform a specific behavior [9]. Evidence indicates that individuals with higher self-efficacy are more likely to initiate and maintain health-promoting behaviors, whereas those with low self-efficacy may fail to act on their knowledge despite recognizing the benefits of healthy lifestyles [9]. This relationship suggests that educational interventions should support not only cognitive understanding but also psychological readiness and confidence to implement behavior change [5,9].

Motivation was repeatedly indicated as an important determinant explaining why health knowledge often fails to translate into health behavior. The reviewed evidence suggests that awareness of benefits may coexist with insufficient motivation to initiate or maintain behavior change, particularly when recommended behaviors require sustained effort and long-term commitment [7,13,16]. In addition, evidence from intention–behavior research indicates that forming intentions does not guarantee consistent action, which helps explain why individuals may acknowledge health recommendations while failing to implement them in daily routines [16,17]. Emotional burden may further weaken behavioral consistency by limiting self-regulatory capacity, even in individuals who possess adequate health knowledge [22–24]. These findings support the interpretation that health education should incorporate motivational support and behavior change principles rather than assuming that knowledge alone is sufficient to generate sustainable outcomes [5,7,29].

Contextual barriers were consistently identified as major contributors to the knowledge–behavior gap. Structural constraints such as limited access to supportive facilities, unhealthy food environments, and time-related barriers may prevent individuals from implementing health recommendations regardless of their knowledge and motivation [2,26,27]. Ecological perspectives emphasize that health behavior is shaped not only by individual factors but also by interpersonal, organizational, and community-level conditions, which may either enable or restrict healthier choices [26–28]. These findings highlight that effective health promotion requires not only education but also supportive environments and policies that make health-promoting behavior feasible in everyday settings [2,27,28]. Therefore, educational and public health strategies should consider environmental feasibility as a necessary condition for behavior change, rather than focusing exclusively on individual knowledge and responsibility [2,5,26].

Educational limitations were repeatedly indicated as an important reason why increased health knowledge does not translate into behavior change. The reviewed literature suggests that traditional educational interventions often focus on the transmission of recommendations rather than on the development of practical competencies necessary for implementing health behaviors in daily life [3–6]. As a result, learners may be able to recall information about risk factors or guidelines while lacking behavioral skills such as action planning, coping with obstacles, and maintaining routines under changing circumstances [5,6]. This educational gap may contribute to short-term awareness improvement without long-term behavioral outcomes, particularly when interventions do not provide opportunities for practice, feedback, or self-monitoring [5]. Therefore, the evidence supports the interpretation that strengthening applied

competencies should be considered a core objective of health education when aiming to reduce the knowledge–behavior gap [3–6].

The reviewed evidence also supports the interpretation that health behavior is shaped by the interaction of multiple psychological and contextual conditions rather than by knowledge alone. Contemporary behavior change frameworks emphasize that behavior depends on capability, motivation, and opportunity, suggesting that individuals may have knowledge but lack psychological resources, supportive conditions, or the skills required for consistent implementation [7]. This perspective helps explain why informational interventions may increase awareness while producing limited effects on daily practice if they do not address motivational processes, behavioral capabilities, and contextual feasibility [5,7,8]. Therefore, the knowledge–behavior gap should be understood as the outcome of interacting determinants that jointly influence whether knowledge can be translated into sustained action [5,7].

The reviewed literature indicates that emotional and cognitive load may substantially limit the translation of health knowledge into action. When individuals experience stress, fatigue, or emotional exhaustion, the capacity for self-regulation and reflective decision-making may decrease, which can lead to choices focused on immediate relief rather than long-term health goals [22–25]. In such conditions, even accurate health knowledge may not guide behavior because emotional states increase reliance on automatic or habitual coping strategies [18,20]. These findings help explain why individuals may fail to implement recommended behaviors such as regular physical activity, healthy eating, or stress management practices despite acknowledging their benefits [2,5]. Therefore, emotional and self-regulatory barriers should be considered central determinants in educational and health promotion programs aiming to reduce the knowledge–behavior gap [5,22,24].

Finally, the reviewed evidence suggests that the translation of knowledge into behavior is strongly dependent on the interaction between habitual processes and environmental conditions. Many health-related actions are embedded in routines and become automatic over time, which reduces the influence of reflective knowledge and intentions on day-to-day behavior [18–21]. Research on habit formation indicates that behaviors repeated in stable contexts may be performed with limited conscious deliberation, which helps explain why informational interventions alone often fail to disrupt established patterns [19,20]. At the same time, environmental factors may either support or constrain habit formation, indicating that individuals are more likely to implement health recommendations when supportive options are accessible and integrated into everyday settings [26–28]. These determinants, summarized in Table 1, provide an integrative framework for interpreting why education focused only on information transfer often fails to produce sustained lifestyle change [3–7,18].

Table 1. Determinants contributing to the gap between health knowledge and health behavior

Determinant	Mechanism influencing behavior	Implications for health education	Key sources
Health literacy and behavioral competencies	Limited ability to apply knowledge; deficits in planning and problem-solving	Skill-based learning, applied practice, self-monitoring	[3–6]
Motivation and intention–behavior gap	Intentions do not reliably lead to sustained action	Motivational support, goal setting, behavior change techniques	[7,13,16,17,29]
Self-efficacy and psychological resources	Low confidence reduces initiation and maintenance of behavior	Feedback, graded tasks, competence building	[9,14,22]
Emotional burden and self-regulatory limitations	Stress and fatigue impair self-control and decision-making	Stress management, emotional regulation, and coping strategies into health education	[22–25]
Habitual and automatic processes	Behaviors embedded in routines; reduced conscious control	Routine planning, habit formation, environmental cues	[18–21]
Environmental and ecological determinants	Contextual factors enable or constrain healthy choices	Supportive settings, institutional policies, access to options	[2,26–28,30]

DISCUSSION

The findings of this narrative review confirm that the relationship between health knowledge and health behavior is complex and cannot be explained through informational mechanisms alone. Although health education and public health strategies frequently assume that increased awareness and understanding will lead to healthier choices, the reviewed evidence indicates that knowledge acquisition does not consistently result in sustainable behavior change [4,5]. This persistent discrepancy, described as the knowledge–behavior gap, highlights limitations of traditional health education models that are primarily knowledge-based [4,8]. In this context, the evidence synthesized in Results and summarized in Table 1 suggests that behavioral outcomes depend on interacting educational, psychological, and contextual determinants that jointly shape whether knowledge becomes action [2,5,7].

From an educational perspective, the reviewed literature indicates that health education has often prioritized information delivery, assuming that increased knowledge will naturally translate into improved health practices [5]. However, evidence related to health literacy suggests that understanding recommendations is not equivalent to being able to apply them effectively in real-life contexts [4,6]. Individuals may possess accurate knowledge while lacking competencies such as planning, evaluating available options, and adapting health

guidelines to everyday constraints [6]. These findings imply that health promotion requires educational strategies that develop practical competencies and support the meaningful use of knowledge rather than focusing exclusively on awareness [3,6].

The reviewed evidence also demonstrates that psychological determinants substantially influence whether individuals translate health knowledge into behavior. Self-efficacy has been consistently identified as a critical predictor of health behavior adoption, indicating that individuals who doubt their ability to succeed may not initiate change even when they understand recommended actions [9]. This mechanism is particularly relevant for behaviors requiring sustained effort, as low self-efficacy may reduce persistence and increase the likelihood of early relapse [9]. Therefore, educational strategies aimed at reducing the knowledge–behavior gap should be aligned with psychological principles by supporting confidence and self-regulatory capacity alongside cognitive learning outcomes [5,7,9].

Emotional factors and habitual behavior patterns further contribute to the persistence of the knowledge–behavior gap. The reviewed literature suggests that stress and emotional exhaustion may impair self-regulation and reduce the capacity to act in accordance with health intentions, increasing reliance on short-term coping behaviors instead of long-term health goals [22–25]. Moreover, many health-related actions are embedded in routines and performed automatically, which limits the role of reflective decision-making and reduces the impact of newly acquired knowledge on everyday behavior [18–21]. These findings indicate that education strategies should address emotional barriers and habit-related mechanisms, as providing information alone is unlikely to modify behaviors maintained by stress, self-regulatory limitations, and automaticity [5,18,22].

In addition to individual-level determinants, the reviewed evidence emphasizes the influence of environmental and social contexts on the translation of knowledge into behavior. Structural barriers such as limited access to supportive infrastructure, unhealthy environments, and time constraints may prevent individuals from implementing health recommendations regardless of their awareness and motivation [2,26,27]. Ecological models of health behavior highlight that actions are shaped by interactions between individual, interpersonal, organizational, and community-level factors, which may either enable or restrict healthier choices [26–28]. Taken together, these findings indicate that sustainable reduction of the knowledge–behavior gap requires linking educational strategies with psychological support and contextual feasibility, rather than relying solely on individual knowledge and responsibility [2,5,26].

An important implication of the reviewed evidence is that the knowledge–behavior gap should not be interpreted as a failure of individuals to learn health information, but rather as an indicator that education alone cannot compensate for missing psychological resources and contextual opportunities. Health education that focuses mainly on recommendations may unintentionally assume that individuals have sufficient capacity, motivation, and supportive conditions to implement advice, which is often not the case [2,5,7]. This is particularly relevant in everyday contexts where competing demands, stress, and limited resources reduce the feasibility of behavior change, even in individuals with high levels of awareness [2,8]. Therefore, educational programs should be evaluated not only based on knowledge gain but also on the extent to which they strengthen behavioral skills and support realistic application of health knowledge under real-world conditions [3,6].

The reviewed literature also suggests that didactic and one-directional educational approaches may be insufficient because they rarely address the practical and psychological processes required for behavior change. Health education interventions that rely on lectures, written

recommendations, or passive information delivery may increase awareness but do not necessarily develop self-regulation skills or provide learners with strategies to manage barriers and setbacks [3–6,29]. In this context, competency-oriented approaches, which include interactive learning, behavioral rehearsal, and feedback, appear more consistent with the determinants identified in Table 1 and with behavior change frameworks emphasizing capability and motivation [7,29]. Such methods may strengthen the ability to plan, monitor progress, and adjust behavior over time, which is particularly important for long-term lifestyle change rather than short-term knowledge acquisition [5,7]. Therefore, educational effectiveness should be interpreted in relation to skill development and behavioral capability, not only in relation to knowledge outcomes [5,6].

From a psychological perspective, the reviewed findings indicate that education strategies should pay greater attention to mechanisms supporting the maintenance of behavior change. Even when individuals initiate healthier behaviors, sustaining them requires confidence, persistence, and adaptive coping with obstacles, which are closely related to self-efficacy and self-regulatory capacity [9,14,22]. In this context, health education may need to shift from one-time informational interventions toward ongoing support models that reinforce behavior through monitoring, feedback, and gradual strengthening of autonomy and competence [5,7,13]. This interpretation is consistent with evidence showing that sustained behavior change is influenced by psychological resources rather than by initial awareness alone [5,14]. Therefore, educational practice aimed at reducing the knowledge–behavior gap should incorporate strategies that strengthen self-efficacy and support long-term maintenance rather than focusing exclusively on behavior initiation [7,9,14].

The reviewed evidence further supports the view that educational interventions should be coordinated with environmental and structural strategies. Knowledge and skills may facilitate behavior change only when individuals have realistic opportunities to implement recommendations in their daily environments [2,26,27]. Public health and ecological frameworks emphasize that supportive settings and policies are essential for enabling healthier choices, which suggests that education should not be treated as an isolated intervention but rather as one element within broader health promotion systems [26–28]. In practical terms, this means that education programs implemented in schools, universities, and workplaces may require organizational support, infrastructure, and accessible options that reinforce learning and make behavior change feasible [2,27,30]. Therefore, sustainable reduction of the knowledge–behavior gap depends on linking educational strategies with supportive environments that promote health-promoting routines in everyday life [2,5,26].

IMPLICATIONS FOR HEALTH EDUCATION AND PRACTICE

The findings of this narrative review have important implications for health education and the design of health promotion interventions. The reviewed evidence indicates that educational approaches relying primarily on information provision are often insufficient to generate sustained behavioral change [4,5,8]. Therefore, health education should be understood not only as knowledge dissemination but also as a process aimed at strengthening competencies and psychological resources that enable individuals to apply health recommendations in everyday contexts [3–6]. This perspective is consistent with health literacy frameworks emphasizing that effective health promotion requires supporting individuals in meaningful use of health information rather than focusing solely on awareness [1,3,6]. In this context, the determinants summarized in Table 1 provide a practical reference for aligning educational strategies with the mechanisms that shape the translation of knowledge into action [5,7].

One implication is the need to shift from predominantly knowledge-based education toward competency-oriented approaches in health education. While information remains necessary, educational programs should focus on developing practical skills such as goal setting, planning, self-monitoring, and problem-solving, which support the implementation of health recommendations in daily life [5,6,29]. This approach corresponds to evidence suggesting that learners may understand health guidelines but struggle to translate them into feasible actions due to limited behavioral competencies and difficulties in adapting recommendations to everyday constraints [6,16]. Therefore, educational interventions should include structured opportunities for applying knowledge in practice and for strengthening skills required to maintain health behaviors over time, consistent with behavior change frameworks emphasizing capability and action planning [7,29].

The reviewed literature suggests that educational practice should also address psychological mechanisms influencing whether individuals act on health knowledge. Strengthening self-efficacy is particularly important because confidence in one's ability to change behavior predicts both initiation and maintenance of health behaviors [9]. Educational interventions may enhance self-efficacy through gradual skill development, supportive feedback, and realistic goal setting, which reduce perceived difficulty and increase persistence over time [9]. In addition, motivation can be supported when educational strategies recognize individual values and barriers and provide realistic guidance for coping with setbacks, rather than presenting recommendations as universal obligations [5,7,8]. This implies that integrating basic behavior change principles into health education may strengthen long-term outcomes and reduce the knowledge–behavior gap more effectively [5,7].

Educational programs should also consider emotional and habit-related mechanisms that limit the translation of knowledge into behavior. Evidence indicates that stress and emotional exhaustion may reduce self-regulatory capacity and increase reliance on short-term coping strategies, which undermines long-term health goals even when knowledge is adequate [22–25]. For this reason, health education may benefit from integrating elements related to stress management and emotional regulation, particularly in settings where learners face high psychosocial demands [1,24]. In addition, habitual behaviors may persist despite knowledge because daily actions are often automatic and context-dependent [18–21]. Therefore, education strategies should support gradual habit formation and encourage practical routine planning rather than relying exclusively on awareness of recommended behaviors [2,5,19].

The findings also highlight the importance of combining educational interventions with supportive environments. Structural barriers such as limited access to healthy options, lack of safe facilities for physical activity, and time constraints may prevent individuals from implementing health knowledge regardless of motivation and awareness [2,26,27]. Therefore, health education in institutional settings such as schools, universities, and workplaces may be more effective when accompanied by organizational policies and environmental conditions that facilitate health-promoting choices [27,28,30]. Furthermore, social norms and support networks can influence behavior maintenance, suggesting that peer support, group-based learning, and community engagement may strengthen the sustainability of educational outcomes [26–28]. Overall, reducing the knowledge–behavior gap requires interdisciplinary approaches integrating education, psychology, and public health to support sustainable behavior change [2,5,26].

In line with the determinants summarized in Table 1, health education practice may benefit from integrating structured behavior change elements into routine teaching and promotion activities. This includes supporting individuals in identifying barriers, preparing feasible action

plans, and developing strategies for maintaining behavior under conditions of stress or reduced motivation [7,22,29]. Such an approach is consistent with the view that educational outcomes should include behavioral competence and practical application of knowledge rather than knowledge acquisition alone [3–6]. Therefore, health education programs should be designed to combine information with skill-building and realistic implementation support, particularly in settings where daily constraints limit the feasibility of behavior change [2,6,26].

LIMITATIONS

This narrative review has several limitations that should be acknowledged. First, the narrative review approach does not follow strict procedures typical of systematic reviews, such as protocol registration, exhaustive database coverage, and formal risk-of-bias assessment [10]. While narrative reviews enable broad conceptual integration and interpretative synthesis across disciplines, the selection and interpretation of literature may be influenced by thematic focus and authorial judgement [10]. Second, the reviewed evidence includes publications addressing different health behaviors and populations, which may limit direct comparability of findings and supports the interpretation of results as integrative rather than behavior-specific [5,8,26]. Finally, the narrative nature of this review does not allow estimation of effect sizes or causal inference, and future research using longitudinal and experimental approaches is needed to clarify causal pathways between health knowledge, psychological and contextual determinants, and sustained behavior change [2,7,14].

It should also be noted that the conceptual synthesis presented in this review integrates evidence across educational, psychological, and public health perspectives, which may result in a higher level of generalization [5,10]. While such integration is useful for understanding broad mechanisms behind the knowledge–behavior gap, determinants may vary in importance depending on the specific behavior, population, and educational setting [2,5,26]. Therefore, the implications derived from this review should be interpreted as general guidance for strengthening health education rather than as prescriptive recommendations for single behaviors [5,7]. Further research may clarify how these determinants interact in specific educational and cultural contexts and how interventions can be adapted to different implementation conditions [2,7,29].

FUTURE DIRECTIONS

Future research should further explore mechanisms explaining why health knowledge does not translate into health behavior and should evaluate educational interventions designed to reduce the knowledge–behavior gap. Longitudinal studies are needed to examine how health knowledge, psychological determinants, and contextual conditions interact over time in shaping everyday health behavior [2,7,14]. In addition, future studies should assess educational programs that integrate competency development and psychological support rather than relying primarily on information transfer, with particular attention to self-efficacy, motivation, and self-regulatory processes [5,9,14,22]. Further research should also investigate how environmental modifications and supportive institutional settings may facilitate the translation of health knowledge into practice in schools, universities, workplaces, and communities [2,26–28,30]. Such interdisciplinary approaches may provide more effective and sustainable solutions for health education and health promotion [2,5,29].

CONCLUSIONS

The reviewed evidence indicates that health knowledge alone is insufficient to ensure health-promoting behavior and that informational approaches have limited capacity to generate sustainable lifestyle change when used in isolation [4,5,8,16]. The findings synthesized in this narrative review suggest that the translation of knowledge into action is moderated by interacting determinants, including health literacy competencies, psychological factors such as self-efficacy and motivation, emotional burden and self-regulatory limitations, habitual behavior patterns, and contextual feasibility of implementing recommendations [6,9,18–25,26–28]. The determinants summarized in Table 1 provide an integrative framework for understanding why health education focused only on information transfer often produces limited behavioral impact and for guiding the development of more comprehensive educational strategies [3–7,29]. Overall, reducing the knowledge–behavior gap requires approaches that combine knowledge with skill development, psychological support, and supportive environments in order to enable sustainable health behavior change [2,5,26–30].

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