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Behavior Change Management Model for Patients with Skin Diseases in Hospital-Based Dermatological Care: A Qualitative Educational Management Study

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ABSTRACT

This article presents a qualitative educational management study on the development of a behavior change management model for patients with skin diseases in hospital settings in Manado City. The study is grounded in the problem that clinical treatment for dermatological conditions is frequently not followed by consistent patient adherence to therapy, self-care routines, trigger avoidance, and long-term follow-up. The study employed a phenomenological qualitative design involving physicians, health professionals, and patients. Data were collected through in-depth interviews, focus group discussion, observation, and document analysis, and analyzed through data reduction, coding, thematic categorization, display, verification, and triangulation. The findings show that patient education has already been practiced as part of dermatological consultation; however, educational planning remains largely individual, implicit, situation-based, and dependent on each physician's experience. The implementation of education is mostly verbal, informative, and clinic-centered, while participatory dialogue, family involvement, written materials, follow-up documentation, and behavioral evaluation remain limited. Patients interpret behavior change as a gradual learning process involving cognitive understanding, emotional acceptance, confidence, professional support, and personal experience. The article proposes a contextual model consisting of needs-based planning, collaborative organization, participatory implementation, meaning reconstruction, reinforcement, and continuous evaluation. The model contributes to educational management by framing hospitals as non-formal learning spaces and patients as adult learners whose sustained behavioral change requires structured, empathetic, culturally sensitive, and continuously monitored education. The model also strengthens promotive and preventive functions in dermatological care by linking clinical management with patient learning and behavior change.

Keywords: behavior change, dermatological care, educational management, hospital education, non-formal learning, patient education, skin disease.

INTRODUCTION

Health development in the twenty-first century cannot be separated from education because health behavior is shaped through learning, interpretation, social interaction, and repeated practice. Hospitals are no longer understood merely as curative institutions. They increasingly function as learning environments where patients and families acquire knowledge, clarify misconceptions, negotiate emotional responses, and build the practical capacity needed to manage illness outside the clinical room. This shift is especially important in dermatological care because many skin diseases are visible, recurrent, psychologically stressful, and strongly dependent on patient self-care. Even when diagnosis and medication are clinically appropriate, treatment success may be weakened when patients stop medication too early, misuse topical therapy, ignore triggers, or return to old habits once symptoms improve.

Skin diseases occupy a distinctive position in health education. They involve the body surface, are often seen by others, and may create shame, anxiety, or social withdrawal. Patients may search for information from relatives, traditional beliefs, social media, or commercial cosmetic advice before meeting a physician. As a result, they frequently enter the consultation room with pre-existing interpretations of their condition. Some believe that all skin problems are caused by food, poor hygiene, magic, cosmetic products, or other explanations that are not always aligned with medical knowledge. This means that the physician's educational role is not only to transmit instructions but also to clarify meaning, correct misinformation, and guide patients toward sustainable self-care behavior.

In educational management terms, patient education is a non-formal learning process. It has learners, objectives, contents, methods, communication strategies, facilitators, media, and evaluation mechanisms. However, in many busy hospital settings, patient education is still conducted spontaneously and informally. It occurs during consultation, while the physician examines the lesion, prescribes medication, and gives short advice about what the patient should do at home. This practice may be useful, but it often lacks documented needs assessment, standardized messages, multidisciplinary coordination, reinforcement, and follow-up evaluation. The educational process therefore depends heavily on individual professional style and available consultation time.

The empirical problem addressed in this article is the gap between clinical treatment and sustained patient behavior change. Patients may understand the physician's explanation at the moment of consultation but fail to continue self-care consistently at home. They may apply ointment irregularly, overuse medication, discontinue therapy, scratch lesions, use inappropriate cosmetic products, or neglect return visits. These patterns indicate that information alone is insufficient. Behavior change requires a managed learning process that considers cognition, emotion, motivation, social support, cultural context, and system-level reinforcement.

The study is located in Manado City, a context with humid tropical conditions, strong interpersonal culture, family-centered decision making, and diverse social beliefs related to illness and care. Such context matters because behavior change is never purely individual. A patient may understand instructions but still be influenced by family advice, work routines, embarrassment, financial constraints, community stigma, or competing information from the internet. Therefore, a behavior change model for dermatological patients should not be a universal and abstract scheme

only. It should be contextual, realistic for hospital workflow, and sensitive to the lived experiences of patients and health professionals.

The purpose of this article is to transform a doctoral qualitative study into a journal article that develops a behavior change management model for patients with skin diseases. The article analyzes how patient education is planned, implemented, experienced by patients, and synthesized into a contextual model. It contributes to educational management by expanding the field beyond formal schools and universities into hospital-based patient education. It also contributes to dermatological service management by emphasizing that the success of care depends not only on medicine but also on a well-managed educational system that enables patients to learn, accept, practice, and maintain new behavior.

THEORETICAL FRAMEWORK

Educational Management in Health Services

Educational management is generally understood as a systematic process of planning, organizing, implementing, and evaluating educational resources to achieve learning objectives effectively and efficiently (Robbins & Coulter, 2017). Contemporary educational management has moved beyond administrative control toward learning quality, human development, institutional culture, and sustainable improvement (Bush, 2018; Hallinger, 2020). This broader understanding is relevant to hospital services because patient education requires management of knowledge, communication, learning experience, and behavioral outcomes.

In health settings, educational management involves designing learning processes that help patients understand their condition, make decisions, and practice health behavior. Sumual, Sumual, and Sompotan (2024) emphasize that systematic human resource development from planning to implementation can strengthen competence and performance. Although their study was conducted in vocational education, the managerial principle is relevant to patient education: educational programs should be based on needs analysis, planned objectives, and implementation strategies rather than improvised activities.

Patient Education as Non-formal and Adult Learning

Patient education is a form of non-formal learning because it occurs outside formal classrooms but remains organized around practical learning goals (UNESCO, 2020). It is also adult learning because patients bring prior experience, beliefs, emotional responses, and immediate needs to the learning process. Knowles (1984) explains that adult learners learn best when instruction is relevant to their real-life problems and respects their autonomy. In dermatological care, this means that patients are not empty recipients of information. They interpret medical advice through their symptoms, social identity, family advice, economic capacity, and previous treatment experience.

Experiential learning also supports this view. Patients learn from itching, pain, visible lesions, recurrence, embarrassment, and the results of their own care practices. Education becomes meaningful when health professionals connect medical explanation to those concrete experiences. Rogers (2019) argues that non-formal learning is flexible, participatory, and experience-based. Therefore, patient education should not be delivered only as one-way instruction; it should involve dialogue, checking understanding, repeated reinforcement, and practical demonstration.

Behavior Change in Education and Health

Behavior change is a gradual transformation in knowledge, attitude, value, motivation, and actual practice. Bandura (2018) explains that behavior is shaped through reciprocal interaction

between personal factors, environment, and actions. In skin disease care, patient behavior is influenced by understanding, fear, stigma, family support, financial capacity, confidence in treatment, and repeated encounters with health professionals. The Knowledge-Attitude-Practice framework suggests that knowledge can shape attitudes and practices (Launiala, 2019), yet the present study shows that this relationship is not automatically linear. Patients may know what to do and still fail to maintain behavior because everyday barriers intervene.

The Transtheoretical Model also helps explain gradual change. Patients may move from unawareness to awareness, intention, action, relapse, and maintenance (Prochaska & Velicer, 2015). In dermatological cases, relapse in behavior can occur when symptoms improve and patients no longer feel urgent need to continue therapy. Therefore, an educational management model should include reinforcement and follow-up, not only initial instruction. Michie et al. (2018) similarly emphasize that behavior depends on capability, opportunity, and motivation. Patient education should therefore improve knowledge and skills, create supportive conditions, and strengthen motivation.

Knowledge Management and Collaborative Education

Hospital education involves multiple forms of professional knowledge. Physicians hold diagnostic and clinical knowledge; nurses often support practical care routines; pharmacists can explain medication use; health promotion staff can design educational materials. The Knowledge-Based View sees knowledge as a strategic organizational resource (Koh et al., 2024). In patient education, this means that professional knowledge should be integrated and translated into patient-friendly messages. Without coordination, patients may receive fragmented or inconsistent advice.

Palilingan et al. (2025) underline that educational management systems require adaptive, integrated, and sustainable learning processes supported by monitoring, reinforcement, and evaluation. This is directly relevant to patient education because one-time explanation rarely produces long-term adherence. Lengkong (2025) also highlights the importance of communication, leadership, and adaptive interaction in learning processes. In dermatological care, communication between physician and patient becomes a decisive educational space where understanding, trust, motivation, and behavioral intention are formed.

Conceptual Position of the Study

The conceptual position of this article is that dermatological patient education should be treated as a managed learning cycle. Planning should identify patient needs; organization should coordinate educators and materials; implementation should use participatory and empathetic communication; and evaluation should monitor understanding and behavior over time. Hospitals thus become non-formal learning organizations, while patients become adult learners whose behavioral change requires support from both professional interaction and institutional systems. See figure 1.

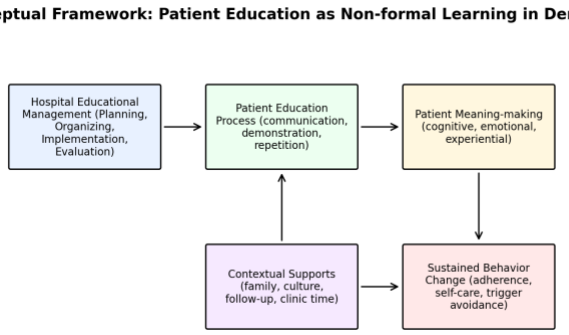

Figure 1. Conceptual Framework of Hospital-Based Patient Education and Behavior Change

METHOD

This study used a qualitative approach with a phenomenological orientation. The qualitative approach was selected because the research problem concerns meaning, experience, interaction, and process rather than numerical measurement. The phenomenological design enabled the study to understand how patients experienced education, how physicians planned and implemented education, and how both groups interpreted behavior change in the context of hospital-based dermatological care.

The study was conducted in hospital dermatology services in Manado City. Informants consisted of dermatologists, health professionals, and patients with skin diseases selected purposively. The selection considered the relevance of informants to the phenomenon under investigation, namely patient education, behavior change, adherence, and self-care. Data were collected through in-depth interviews, focus group discussion with physicians, observation of educational interactions, and document analysis of relevant educational and service practices.

Data analysis followed qualitative steps of transcription, data reduction, coding, categorization, data display, thematic synthesis, and conclusion drawing. Open coding was used to identify early meanings in statements from physicians and patients. Axial coding connected these codes into categories such as needs-based planning, verbal education, demonstration, repeated explanation, emotional acceptance, adherence barriers, and lack of structured evaluation. Selective coding was then used to synthesize the main themes that formed the basis of the model. Trustworthiness was strengthened through source triangulation, technique triangulation, repeated reading, and comparison between interview, FGD, observation, and document data.

In transforming the study into a journal article, the results are organized into four analytical domains: educational planning, educational implementation, patient meaning-making and behavior change, and development of the model. Tables and figures are presented in English to make the findings more transparent and persuasive for international readers.

RESULTS AND DISCUSSION

Educational Planning: Needs-based but Not Yet Systematic

The findings indicate that educational planning for patients with skin diseases has been conducted in clinical practice, but it remains largely implicit and physician-centered. Physicians usually begin education by assessing the patient's clinical condition, the severity and recurrence of the disease, the patient's understanding, and the misconceptions brought into the consultation. Education is therefore adapted to each patient. This is a strength because dermatological education

must be individualized. However, the process is not yet fully standardized as a hospital educational program.

Most physicians described education as inseparable from clinical consultation. Planning occurs rapidly while the physician examines the patient and decides the treatment. The main educational content includes causes of disease, medication use, skin hygiene, trigger avoidance, recurrence prevention, and the need for follow-up. Yet there is no uniform module that ensures every patient receives the same minimum standard of information. The available planning is practical and context-sensitive, but it has not yet been converted into formal educational procedures, written materials, or structured evaluation indicators.

Another important finding is that planning considers patient characteristics, including age, educational background, cultural beliefs, and ability to understand medical terms. Physicians recognize that older patients, young adults, and patients influenced by traditional explanations require different communication strategies. This shows an awareness of adult learning principles. However, the absence of a documented needs-assessment tool makes it difficult to ensure consistency across physicians and across visits. See table 1.

Table 1. Synthesis of Educational Planning Findings

Theme	Empirical evidence	Management implication
Needs-based education	Education begins from diagnosis, disease severity, recurrence history, and patient understanding.	Planning should include a simple patient-needs checklist.
Implicit planning	Education is attached to consultation rather than designed as a separate educational program.	Hospitals need standard operating procedures for patient education.
Variation in educational content	Physicians explain medication use, triggers, hygiene, and follow-up, but materials are not standardized.	A core dermatological education module should be created.
Cultural and social adaptation	Patients bring traditional beliefs, internet information, or family assumptions.	Planning should include culturally sensitive communication strategies.
Limited evaluation planning	Follow-up visits are used informally to see whether patients follow advice.	Behavioral indicators should be included in the plan.

Educational Implementation: Integrated with Clinical Care but Still Informative

The implementation of education occurs directly during daily clinical practice. Physicians explain the diagnosis, treatment, medication use, and home care while interacting with the patient. This integrated approach is efficient because the explanation is connected to the patient's actual lesion and immediate concerns. Demonstration is used when physicians show how to apply topical medication, how much medication to use, or which skin area requires special care. Patients often find this practical explanation helpful because it translates medical advice into concrete action.

Nevertheless, implementation remains predominantly informative. The physician speaks, explains, and instructs; the patient listens and asks questions if there is time or confidence. Participatory interaction is present but limited. Some patients hesitate to ask because they do not want to take more consultation time or because they feel embarrassed about their disease. This limits the depth of learning, especially when patients do not fully understand medical terms or when emotional concerns remain unspoken.

Implementation is also constrained by service conditions. High patient volume and limited consultation time reduce the opportunity for in-depth education. Visual media, printed leaflets,

digital materials, and family-based education are not yet used consistently. Repetition during control visits becomes an important strategy, but it depends on whether the patient returns and whether the same educational message is reinforced. The data show that education is already a part of care, but it needs stronger organization, documentation, and participatory methods to support behavior change. See table 2.

Table 2. Implementation of Dermatological Patient Education

Implementation aspect	Strengths found in practice	Limitations identified	Improvement direction
Direct verbal explanation	Fast, practical, and connected to consultation.	Can be too brief and one-way.	Use teach-back and question prompts.
Demonstration	Helps patients understand topical medication use and skin care steps.	Not always documented or repeated.	Create demonstration checklist and visual guide.
Repetition at follow-up	Strengthens memory and awareness.	Depends on patient returning to control visits.	Schedule reinforcement messages and follow-up reminders.
Patient participation	Patients can ask questions when comfortable.	Limited by embarrassment and clinic time.	Use empathetic dialogue and active listening.
Family involvement	Potentially supports home care.	Not consistently planned.	Invite family participation for chronic or recurrent cases.

Patient Meaning-making: Behavior Change as a Gradual Learning Process

Patients interpret education as an experience that opens new understanding. Before receiving explanation, many patients considered skin disease a minor temporary condition or misunderstood the cause. After education, they began to understand that some conditions require long-term management, proper medication use, trigger avoidance, and routine care. This indicates cognitive change. However, the findings also show that understanding alone does not guarantee stable behavior.

Patients also experienced emotional change. Explanation from physicians reduced fear, confusion, and anxiety. Some patients felt more confident because they knew what the disease was and what they should do. This affective dimension is important because visible skin disease can create embarrassment and self-consciousness. Education that is empathetic helps patients accept their condition and become more willing to follow treatment.

Behavioral change appeared in several forms: using medication as instructed, paying more attention to skin hygiene, avoiding triggering products or habits, and returning for control visits. Yet the change was not always stable. Several patients reported that old habits returned when symptoms improved or when they became busy. This demonstrates a gap between knowledge and practice. Sustainable change requires repeated education, motivation, family support, and monitoring. See table 3.

Table 3. Patient Interpretation of Education and Behavior Change

Dimension	Meaning experienced by patients	Observed behavior	Risk of relapse

Cognitive	Patients understand diagnosis, causes, medication rules, and recurrence risk.	More accurate interpretation of skin disease.	Medical terms may still be confusing.
Affective	Patients feel calmer, more accepted, and less afraid.	Greater willingness to follow treatment.	Shame or anxiety may return when lesions are visible.
Practical behavior	Patients apply medication, improve hygiene, and avoid triggers.	Initial adherence and self-care improve.	Behavior weakens when symptoms decrease.
Social support	Family can remind, assist, and encourage care.	Better consistency at home.	Family misinformation may weaken adherence.
Follow-up learning	Repeated explanation strengthens memory and motivation.	Patients become more aware of long-term care.	Irregular control visits interrupt reinforcement.

Development of the Behavior Change Management Model

The focus group discussion with physicians confirmed the need for a model that is simple, realistic, and compatible with hospital workflow. Physicians agreed that patient education cannot rely solely on individual communication styles. A structured model is needed to guide planning, standardize core messages, involve other health professionals, and monitor behavior change. However, the model should not create excessive administrative burden because outpatient dermatological services are often busy.

The model developed from the data contains six interconnected components: needs-based planning, collaborative organization, participatory education, meaning reconstruction, behavioral reinforcement, and continuous evaluation. Needs-based planning ensures that education starts from the patient's clinical condition and understanding. Collaborative organization distributes educational responsibility across physicians, nurses, pharmacists, and health promotion staff. Participatory education shifts the method from one-way instruction toward dialogue, demonstration, and teach-back. Meaning reconstruction recognizes that patients need to reinterpret their illness emotionally and socially. Behavioral reinforcement strengthens adherence through repetition, reminders, family support, and control visits. Continuous evaluation checks whether the patient understands, practices, and maintains the recommended behavior. See figure 2, and table 4.

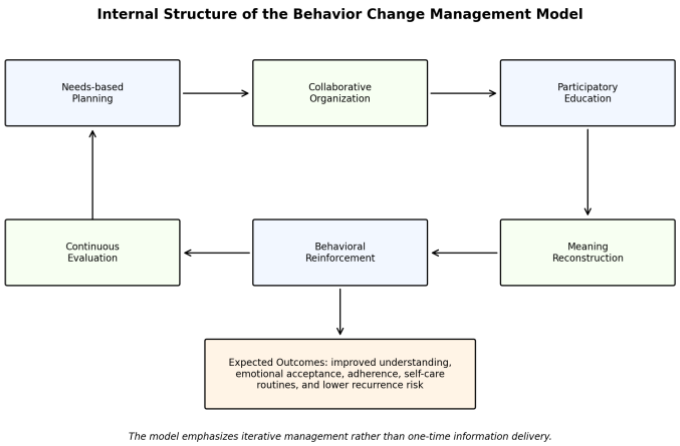

Figure 2. Internal Structure of the Behavior Change Management Model

Table 4. Model Components, Empirical Basis, and Educational Management Logic

Model component	Empirical basis	Educational management logic	Expected outcome
Needs-based planning	Education differs according to disease type, recurrence, and patient understanding.	Planning should begin with patient needs analysis.	Relevant and personalized education.
Collaborative organization	Education is still centered on physicians.	Roles of physicians, nurses, pharmacists, and educators should be coordinated.	Consistent and less fragmented messages.
Participatory implementation	Education is mostly verbal and informative.	Dialogue, demonstration, teach-back, and empathy should be used.	Higher understanding and confidence.
Meaning reconstruction	Patients need emotional acceptance and correct interpretation of illness.	Education should address beliefs, fear, shame, and personal experience.	Positive attitude and readiness to change.
Behavioral reinforcement	Patients may return to old habits when symptoms improve.	Repeated education and family reminders should maintain behavior.	Sustained self-care and adherence.
Continuous evaluation	Evaluation is mostly informal through control visits.	Behavioral indicators should be monitored and documented.	Evidence-based improvement of education.

Planning Patient Education as a Managed Learning Process

The findings show that educational planning is present but not yet fully institutionalized. Physicians already use professional judgment to adapt education to diagnosis, severity, recurrence, and patient background. This is consistent with adult learning theory, which emphasizes that learning must respond to real-life needs (Knowles, 1984). However, from the perspective of educational management, effective planning requires more than professional intuition. It requires shared objectives, documented needs assessment, standardized core materials, and indicators of success (Robbins & Coulter, 2017; Bush, 2018).

The weakness of implicit planning is that quality becomes dependent on individual style. One patient may receive detailed advice, while another may receive only short instructions because of limited time. A structured plan would not remove physician flexibility; rather, it would provide a minimum educational standard while allowing adaptation. Sumual, Sumual, and Sompotan (2024) emphasize that development programs should be designed from needs analysis to implementation. Applied to dermatological care, this means that patient education should begin with a brief assessment of patient knowledge, misconceptions, home-care capacity, and potential barriers.

The planning function also needs to include behavior change goals. Many educational encounters focus on information: what disease the patient has, what medication is prescribed, and what must be avoided. Yet the ultimate objective is behavior: correct medication use, hygiene, trigger avoidance, return visits, and long-term self-care. Therefore, planning should translate medical instructions into observable behaviors. This is aligned with behavior change theory, which argues that capability, opportunity, and motivation must be addressed together (Michie et al., 2018).

Implementation: From Informing to Participatory Learning

The implementation findings suggest that education is integrated with clinical care but remains mostly informative. This reflects a common challenge in busy hospital environments. Verbal explanation is efficient, but it may not be sufficient for adult learners who need demonstration, repetition, and opportunity to clarify misunderstanding. In non-formal learning, communication should be dialogic and participatory (Freire, 2005; Rogers, 2019). For skin disease patients, dialogue is essential because illness experience may include shame, fear, social stigma, and competing cultural explanations.

Participatory implementation can be strengthened through simple methods. The teach-back method asks patients to repeat in their own words how they will apply medication or care for the skin. Demonstration can show how much ointment to use, how often to wash the affected area, and what products to avoid. Visual leaflets can support memory at home. These methods do not require complex technology, but they require institutional commitment and standardization.

Lengkong (2025) argues that the success of educational processes is influenced by communication quality, leadership, and adaptive interaction. This supports the finding that physician-patient communication is central to dermatological behavior change. Communication should not only be accurate but also empathetic, motivational, and adapted to patient literacy. When communication is too technical, the patient may appear to agree but fail to practice correctly at home.

Patient Meaning-making and the Non-linear Nature of Behavior Change

The study reveals that behavior change is not a simple linear result of information. Patients may gain knowledge and motivation after consultation, but maintenance remains difficult. This confirms the limitation of purely cognitive models. The Knowledge-Attitude-Practice model is useful because it shows the relationship between knowledge, attitude, and practice (Launiala, 2019), but the data show that practice is mediated by emotion, habit, family, time, symptom relief, and social context.

Patients with skin diseases often interpret improvement as a signal to stop medication. This is not merely disobedience; it is a meaning-making process. When visible symptoms decrease, the perceived urgency decreases. Therefore, education must explain not only what to do but also why continuity matters. Behavioral reinforcement is needed to prevent relapse in both disease and behavior. The Transtheoretical Model emphasizes maintenance and relapse prevention (Prochaska & Velicer, 2015), which are highly relevant to chronic and recurrent skin conditions.

The affective dimension is equally important. Some patients feel ashamed because lesions are visible; others fear contagion or social judgment. When physicians explain the disease calmly and respectfully, patients become more emotionally ready to follow treatment. Thus, education operates as both cognitive clarification and emotional support. This supports the idea that hospitals function as learning spaces where clinical knowledge, psychological acceptance, and practical self-care are integrated.

Model Novelty and Contribution to Educational Management

The proposed model offers several contributions. First, it frames patient education as an educational management cycle rather than an incidental message during consultation. Second, it positions patients as adult learners whose behavior change depends on experience, motivation, and social support. Third, it integrates the POAC logic of planning, organization, implementation, and evaluation with behavior change mechanisms such as understanding, emotional acceptance, reinforcement, and monitoring. Fourth, it is contextual to hospital conditions in Manado City

because it considers limited consultation time, high patient volume, oral communication culture, family influence, and the need for realistic implementation.

Palilingan et al. (2025) emphasize adaptive, integrated, and sustainable educational management systems. The model developed in this article follows this principle by proposing an iterative cycle rather than a one-time intervention. The model also extends educational management theory into hospital-based non-formal learning. It shows that education management is not only relevant to schools but also to clinical environments where learning determines health behavior.

The model's practical novelty lies in its internal structure. It begins with needs assessment but does not stop at planning. It requires collaborative organization, participatory implementation, meaning reconstruction, reinforcement, and evaluation. This structure responds to the main empirical gap: education increases understanding but does not always sustain behavior. Therefore, the model bridges the gap between knowledge and practice by adding reinforcement and monitoring as management functions. See figure 3, and table 5.

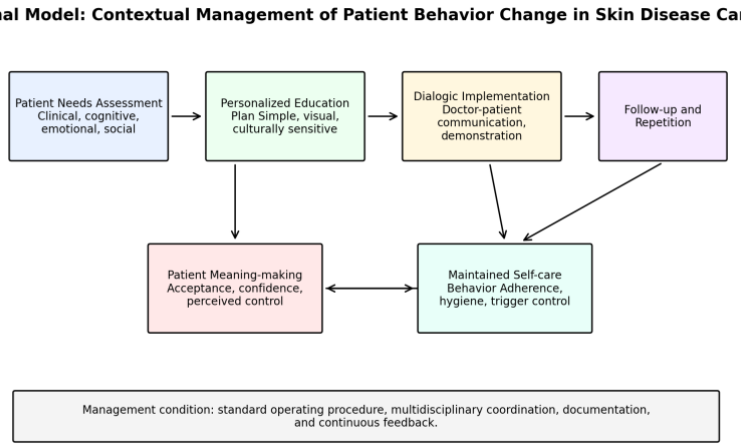

Figure 3. Final Contextual Model of Behavior Change Management for Patients with Skin Diseases

Table 5. Comparison between Previous Approaches and the Developed Model

Aspect	Common previous approach	Developed model in this article
View of education	Information transfer from professional to patient.	Non-formal adult learning process in hospital care.
Planning	Spontaneous and diagnosis-based.	Needs-based, patient-centered, and behavior-goal oriented.
Implementation	Verbal instruction during consultation.	Participatory dialogue, demonstration, teach-back, and repetition.
Behavior change logic	Knowledge is expected to produce compliance.	Understanding, emotion, motivation, family support, and reinforcement interact dynamically.
Organization	Physician-centered education.	Collaborative roles among physicians, nurses, pharmacists, and health educators.
Evaluation	Informal observation during control visits.	Continuous monitoring of understanding, adherence, self-care, and barriers.

Practical Implications for Hospital Management

The model has several practical implications. First, hospitals should develop short and standardized education guides for common skin diseases while allowing physicians to adapt messages to patient needs. Second, a simple documentation form can record whether education has been given, what topic was discussed, whether the patient understood, and what behavior should be monitored at follow-up. Third, nurses and pharmacists can support reinforcement by repeating key messages after consultation or during medication dispensing. Fourth, family members should be involved when the patient is elderly, chronically ill, or dependent on household routines.

Fifth, educational media should be simple and accessible. Printed cards, visual diagrams, short videos, or mobile messages may help patients remember instructions. The media should use plain language and culturally familiar examples. Sixth, evaluation should not be limited to clinical improvement. It should also ask whether the patient applies medication correctly, avoids triggers, maintains hygiene, and returns for control. These behavioral indicators can help hospitals improve the quality of promotive and preventive services.

Finally, hospital leaders should treat patient education as a quality-management issue. If education is not managed, adherence will depend on patient memory and individual physician style. A structured model makes education more equitable, measurable, and sustainable. It also supports patient-centered care by recognizing that patients need not only treatment but also learning support.

Operationalization of the Model in Hospital Workflow

For the model to become useful in real hospital management, each component should be translated into operational actions that can be performed without disrupting the rhythm of outpatient care. Needs-based planning can be operationalized through a short patient education screening form containing four questions: what does the patient already know, what misconception is present, what self-care behavior is required, and what barrier is likely to prevent adherence. This form does not need to be lengthy. It can be completed by the physician or nurse during the consultation and used to decide the educational priority of the visit. In a busy clinic, the goal is not to teach every detail at once but to identify the most important behavior that must change immediately.

Collaborative organization can be operationalized by dividing educational roles. The physician explains diagnosis, clinical risk, and treatment rationale. The nurse reinforces daily care routines and observes whether the patient understands practical instructions. The pharmacist clarifies medication schedules and possible side effects. Health promotion staff prepare visual materials and reminder messages. This distribution reduces dependence on the physician alone and makes education a shared institutional responsibility. It also reduces the risk that patients receive fragmented messages, because each professional role is linked to the same educational plan.

Participatory implementation requires the use of communication routines that are simple but transformative. The physician or nurse can ask patients to describe how they will apply medication at home, what they will avoid, and when they will return. This teach-back process turns the patient from a passive listener into an active learner. The educator can then correct misunderstanding immediately. Demonstration is also critical in dermatology because many mistakes occur in dosage, application area, duration, and frequency of topical treatment. Visual instruction can help patients remember the difference between thin application, overuse, and irregular use.

Meaning reconstruction is the component that differentiates this model from a purely technical education model. Patients with skin diseases often interpret the illness through fear, shame, myths, or previous unsuccessful treatment. The educational process should help them

reconstruct the meaning of the disease from a frightening or embarrassing condition into a manageable health problem. This does not mean ignoring clinical seriousness. It means creating a balanced understanding: the disease requires discipline and follow-up, but it can be controlled when treatment and self-care are consistent. Such meaning reconstruction supports emotional acceptance and strengthens motivation.

Behavioral reinforcement can be operationalized through repeated messages at each follow-up visit. Reinforcement should not simply repeat the same explanation mechanically. It should begin by asking what the patient has practiced, what was difficult, and what has changed since the last visit. When patients report success, the educator can affirm and strengthen the behavior. When patients report difficulty, the educator can negotiate a more realistic strategy. In this way, reinforcement becomes an adaptive coaching process rather than an instruction repeated without context.

Continuous evaluation should be designed as a practical monitoring process. Hospitals can monitor three levels: patient understanding, observed adherence, and reported self-care routines. Understanding can be evaluated through teach-back; adherence can be assessed through patient report and clinical observation; self-care can be discussed through brief questions about hygiene, triggers, medication use, and control visits. These indicators are simple enough for routine service but meaningful enough to guide program improvement. Over time, aggregated documentation can help hospitals identify which educational topics are most often misunderstood and which patient groups need more intensive support.

Theoretical Contribution to Educational Management and Health Education

The theoretical contribution of this article lies in its integration of educational management, non-formal learning, patient-centered care, and behavior change theory. Educational management is often discussed in relation to schools, universities, leadership, curriculum, and student achievement. This article expands that scope by showing that hospitals also require educational management because patients learn within service encounters. In this sense, the hospital is a pedagogical organization: it produces clinical care and health knowledge simultaneously. If the educational function is left unmanaged, patient learning becomes accidental. If it is managed systematically, clinical service can become a structured learning environment.

The model also contributes to the theory of adult learning by placing patient experience at the center of education. Adult patients are motivated by practical problems that affect their daily lives. They learn when the information is relevant, respectful, and connected to their experience. The study shows that patients do not simply receive medical information; they interpret it through symptoms, emotions, family advice, cultural beliefs, and previous treatment. This supports an experiential and constructivist view of learning, where meaning is constructed in interaction rather than deposited by the educator.

In relation to behavior change theory, the model provides a bridge between cognitive understanding and practical maintenance. Many health education programs stop at knowledge improvement. The findings of this study show that the real challenge is not only to make patients understand but also to help them maintain behavior when the motivation declines. The model therefore combines knowledge, emotion, motivation, opportunity, reinforcement, and evaluation. It recognizes that relapse is part of the behavior change process and that educational management should anticipate relapse rather than interpret it only as patient failure.

The model also strengthens the concept of knowledge management in health organizations. Clinical knowledge has limited impact when it remains within professional boundaries. It must be translated into patient language, distributed consistently, reinforced through teamwork, and

evaluated through behavior. This is where educational management and knowledge management meet. A hospital that manages patient education well is not merely a place where professionals know many things; it is a place where professional knowledge becomes usable knowledge for patients.

Methodological Contribution and Trustworthiness of the Model

The qualitative design is appropriate because the research problem concerns process, meaning, and lived experience. A quantitative design could measure the relationship between education and adherence, but it would not fully explain why some patients understand but do not practice, why some explanations are accepted emotionally while others are ignored, or how physicians negotiate education under time pressure. The phenomenological orientation makes it possible to capture the meaning of education from the standpoint of those who experience it directly.

Triangulation strengthens the credibility of the model. Physicians describe how education is planned and implemented; patients describe how they receive and interpret it; focus group discussion reveals professional consensus and disagreement; observation and documents show how education appears in institutional practice. The model is therefore not derived from one source only. It is constructed through the convergence of multiple empirical perspectives. This is important because behavior change in health care is a relational process involving patients, professionals, family, and institutions.

The transformation of coding results into a model follows a clear qualitative logic. Open coding identifies meaningful units such as verbal explanation, limited time, patient misconception, medication demonstration, repeated education, emotional acceptance, and adherence difficulty. Axial coding groups these units into broader categories such as planning, implementation, patient interpretation, reinforcement, and evaluation. Selective coding integrates these categories into the central theme: behavior change is sustained when patient education is managed as an iterative, contextual, and participatory learning cycle. This analytic transparency supports the trustworthiness of the model.

Limitations and Future Research

The article has several limitations. First, the qualitative design prioritizes depth of understanding rather than statistical generalization. The model is contextual to hospital dermatology services in Manado City and should be adapted before application in other regions. Second, the model is based on the perspectives of physicians, health professionals, and patients who participated in the study. Other stakeholders, such as hospital administrators, family caregivers, pharmacists, and community health workers, may provide additional insight into the sustainability of patient education. Third, the article develops a conceptual and practical model but does not test its effectiveness through intervention measurement.

Future research can develop and test an implementation package based on this model. Such research may compare standard verbal education with structured education using needs assessment, teach-back, visual media, family involvement, and follow-up monitoring. Quantitative indicators may include adherence, recurrence, patient satisfaction, health literacy, quality of life, and frequency of return visits. Mixed-methods research can also examine whether the model improves both measurable outcomes and patient experience. Digital reinforcement systems, such as reminder messages or short educational videos, may also be explored while ensuring that technology does not replace empathetic human communication.

Further studies may also examine how cultural values influence dermatological behavior change. In communities where family advice and social perception are strong, educational

management should involve family members and address social meanings of visible skin disease. Comparative studies between urban and rural hospitals may reveal different barriers and support systems. These future directions will help refine the model and strengthen its relevance for broader health education management.

Policy and Curriculum Implications for Hospital-Based Education

The model implies that patient education should be included in hospital quality policies rather than treated as a personal communication habit of individual clinicians. A hospital policy can define minimum educational standards, assign professional responsibilities, prepare patient-friendly materials, and require follow-up documentation. Such policy does not need to be bureaucratically heavy; it can be designed as a short workflow embedded in existing outpatient services. The important point is that education should be visible in the management system. When education is visible, it can be improved, audited, and supported by leadership.

For medical and health professional education, the findings suggest that future physicians and nurses should be trained not only in clinical diagnosis but also in patient education management. Dermatological care requires the ability to explain, listen, demonstrate, motivate, and evaluate. These are educational competencies. Curriculum developers can integrate patient education simulations into clinical training, asking students to practice how to explain medication use, how to respond to patient myths, and how to use teach-back. This would strengthen the connection between medical competence and educational competence.

The model also has implications for continuing professional development. Health professionals who work in dermatology clinics need short training on health literacy, cultural communication, motivational interviewing, and behavior change. This is consistent with the view that learning organizations should continuously improve the knowledge and capacity of their members. If health professionals are supported to become better educators, patients will be more likely to become active learners and partners in care.

At the policy level, the model supports the promotive and preventive functions of hospitals. Dermatological services should not only respond to disease recurrence but also reduce recurrence through education. When patients understand triggers, medication routines, hygiene practices, and follow-up needs, the burden of repeated visits may be reduced. This has potential implications for service efficiency and patient quality of life. Therefore, investment in structured education is not an additional burden but a strategy for improving care outcomes.

Synthesized Propositions Derived from the Findings

Based on the findings and discussion, several propositions can be formulated. First, patient education is more effective when it begins with patient needs rather than with a fixed professional script. Second, patient understanding improves when explanations are connected to visible lesions, personal experience, and practical self-care routines. Third, emotional acceptance mediates the relationship between knowledge and behavior; patients who feel less afraid and more understood are more likely to follow advice. Fourth, behavior change is unstable when reinforcement is absent, especially when symptoms improve and perceived urgency declines.

Fifth, collaborative education is more sustainable than physician-centered education because behavior change requires repeated and consistent messages across the care pathway. Sixth, evaluation should include both clinical indicators and learning indicators. A lesion may improve temporarily while the patient still does not understand how to prevent recurrence. Seventh, cultural context shapes how patients interpret illness, authority, family advice, and self-care. Therefore, effective educational management must be contextual rather than purely procedural.

These propositions clarify the central argument of the article: sustained behavior change among patients with skin diseases depends on the management of education as an ongoing learning cycle. The cycle begins with assessing needs, continues through participatory implementation, and is maintained through reinforcement and evaluation. This argument can guide future research, policy development, and practical interventions in hospital-based dermatological education.

Research Novelty

The novelty of this article is found in the way it redefines dermatological patient behavior change as an educational management problem. Previous approaches tend to discuss patient compliance as an individual psychological or clinical issue, while this article shows that compliance is also shaped by how education is planned, organized, implemented, reinforced, and evaluated. The model therefore moves beyond the narrow assumption that patients will change behavior after receiving information. It argues that patients change when information becomes meaningful, emotionally acceptable, socially supported, and repeatedly connected to daily practice.

Another novelty is the integration of hospital education with non-formal learning theory. The article demonstrates that educational management can operate outside classrooms and become a quality mechanism inside health services. The physician-patient encounter is interpreted as a pedagogical encounter, and the hospital is interpreted as a learning organization. This perspective provides a new conceptual bridge between management education, patient-centered care, and dermatological behavior change. It is particularly relevant for contexts where health services are crowded, consultation time is limited, and patient behavior is strongly influenced by family, culture, and informal sources of information.

This novelty strengthens both the theoretical and practical value of the article for educational management, dermatological services, and hospital-based health promotion.

CONCLUSION

This article concludes that patient education for skin diseases in hospital settings in Manado City has been implemented as part of clinical consultation, but the management process remains largely individual, implicit, and not yet fully standardized. Planning is based on patient clinical needs and physician experience, but it lacks systematic needs assessment, written modules, team coordination, and structured evaluation. Implementation is practical and integrated with care, but it is still dominated by verbal explanation and limited participatory interaction. Patients interpret education as a learning experience that increases understanding, reduces anxiety, and encourages initial self-care behavior. Nevertheless, behavior change is gradual and unstable. Many patients understand advice but struggle to maintain practices because of habit, symptom improvement, family influence, work routines, and insufficient reinforcement. Therefore, education should be managed as a continuous learning process rather than a one-time message. The developed behavior change management model consists of needs-based planning, collaborative organization, participatory implementation, patient meaning reconstruction, behavioral reinforcement, and continuous evaluation. The model contributes to educational management by positioning hospitals as non-formal learning spaces and patients as adult learners. It also contributes to dermatological care by linking clinical treatment with structured education and sustained behavior change.

Recommendations

Hospitals should institutionalize patient education through standard operating procedures, concise educational materials, and simple documentation tools. Dermatology units should develop

patient-centered education modules for common skin diseases and integrate demonstration, teach-back, repetition, and family involvement into routine care. Health professionals should be trained to communicate in plain language, identify patient misconceptions, and evaluate behavioral barriers. Future research may test the model through implementation studies or develop digital reinforcement tools that support long-term adherence and self-care among dermatological patients.

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