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Chronic Atopic Dermatitis: Symptom Management Using Moisturizers Among Asian American Pediatrics

Ethan J. Brillantes
Dominican University of California

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Chronic Atopic Dermatitis: Symptom Management Using Moisturizers Among Asian American Pediatrics

Ethan Jared Brillantes

Dominican University of California

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Professor Deborah Meshel

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Abstract

Background: Atopic Dermatitis (AD), also commonly known as eczema, affects 31.6 million (10%) of the United States Population, with 13% being Asian American or Pacific Islander. A cure is not present for AD; however, the best way to treat AD is with symptom management. While there are many pharmacological treatments that aid with symptom management such as topical or oral corticosteroids, there are also non pharmacological treatments such as moisturizers that can aid with symptom relief of AD as well. **Objective:** The literature review explores moisturizer use and other non pharmacological methods for symptom management of AD and provides understanding of topical corticosteroids perceptions among the public. This research proposal will investigate whether or not moisturizers provide symptom relief among Asian American pediatric children that have atopic dermatitis. **Method:** A quantitative, quasi-experimental study over an 8 week period will be used with a sample size of 150 participants. Once the 150 participants are selected, they will be randomly placed in either the control or experimental group. The moisturizer that will be used is Cetaphil Restoraderm Moisturizer (CRM). Both groups will receive education on non pharmacological methods to help manage AD; however, the control group will not receive the moisturizer intervention. The severity of atopic dermatitis will be measured by SCORAD, VAS itch scores, TEWL, and a questionnaire that asks about quality of life before and after the intervention. As a result of the study, there is an expectation that SCORAD, VAS, and TEWL scores will decrease.

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Background

Atopic Dermatitis (AD), commonly referred to as eczema, is a chronic relapsing and remitting inflammatory skin disease affecting one in 10 people in their lifetime (Frazier and Bhardwaj, 2020). AD is characterized by skin inflammation with redness, rashes, bleeding, consistent itching, or skin thickening (Mayo Clinic, 2023). It can be present throughout the whole body, but AD is most commonly seen on one's face, arms or behind the knees. Several factors that cause AD include genetics, environment, emotional triggers, and an overactive immune system (Cleveland Clinic, 2023). Patients with AD will often experience flare ups which are triggered by dry weather, certain clothing materials, makeup or skin care products, smoke, pollutants, certain soaps or detergents, stress, and food allergies (Cleveland Clinic, 2023).

A cure is not present for AD; however, the best way to treat AD is with symptom management. While there are many pharmacological treatments that aid with symptom management such as topical or oral corticosteroids, there are also non pharmacological treatments such as moisturizers that can aid with symptom relief of AD as well. There are three different types of moisturizers: emollients, occlusives, and humectants. Emollients are lipid based and provide skin hydration, smoothness, flexibility, and softness (Purnamawati et al., 2017). Occlusives are oil based and maintain skin water content by creating a hydrophobic barrier along the skin to help block trans-epidermal water loss (Purnamawati et al., 2017). Humectants consist of hygroscopic substances that attract water from the dermis and absorb moisture from a humid environment to help the stratum corneum absorb water (Purnamawati et al., 2017).

Problem Statement

AD affects 31.6 million (10%) of the United States Population, with 13% being Asian

American or Pacific Islander. (National Eczema Association, 2023). Approximately 9.6 million US children under the age of 18 are affected with atopic dermatitis (National Eczema Association, 2023). Topical corticosteroids (TCS) are often the main pharmacological treatment for AD; however, parents are cautious of topical steroids due to fears of its side effects such as erythema, reduced skin thickening or skin atrophy (Hachem et al., 2017). Alternatives such as moisturizers are recommended to help aid with AD. Although there is research on the effects of moisturizers in the general population of people with AD, there is a gap in research on the effects of moisturizers on symptom management for Asian American pediatrics with chronic atopic dermatitis.

Purpose Statement

A nurse's role is to understand cultural differences and become culturally sensitive in the care that they provide for patients. This research proposal will help close the population group gap in moisturizer use in Asian American pediatrics. The aim of this study is to determine the effectiveness of moisturizers among Asian American pediatrics dealing with atopic dermatitis.

Research Question

Do moisturizers provide symptom relief among Asian American pediatric children that have atopic dermatitis?

Hypothesis

Asian American pediatrics who use moisturizers over a 8 week period are more likely to show improved symptoms of atopic dermatitis than Asian American pediatrics that do not use moisturizers.

Literature Critique

The following literature review explores moisturizer use and other non pharmacological methods for symptom management of AD and provides understanding of topical corticosteroids perceptions among the public. Through the Dominican University of California library database, the articles used for this review were retrieved from the following sites: CINAHL Complete, Cochrane Collection Plus, and PubMed. With each database, search terms used to find each article included: "atopic dermatitis or eczema," "moisturizers or emollients or creams," "topical corticosteroid use," "topical corticosteroid phobia," and "symptom management." The criteria for articles to be included in this literature review include: published articles between 2013-2023 and peer reviewed. A total of six articles were selected for this literature review and are organized under the following themes: "Atopic Dermatitis Symptom Management Using Moisturizers," "Topical Corticosteroid Perceptions Among the Population with Atopic Dermatitis," and "Other Non-Pharmacological Methods To Help Aid with Atopic Dermatitis." A Literature Review Table can be found in Appendix A.

Atopic Dermatitis Symptom Management Using Moisturizers

Understanding moisturizing use as an intervention for symptom management can guide nurses to understand how to facilitate care for patients dealing with AD. Simpson et al. (2015) conducted a quantitative randomized, intra-individual comparison study with a purpose to determine the efficacy of Cetaphil Restoraderm Body Moisturizer (CRM) in enhancing skin barrier function in AD patients.

The sample consisted of patients who were male or female volunteers from 18-65 years old with controlled AD (no active lesions in the target area) and scored at least 1 on a dryness scale and a corneometer (skin hydration measurement) value less than 30 at inclusion. Out of the n=20 individuals that were tested, the researchers discovered that CRM showed major

improvements compared to the control area. The areas designated to be treated or untreated had similar baseline dry skin clinical scores (2.05 ± 0.63 [males] and 2.07 ± 0.63 [females], respectively), skin hydration (17.77 ± 5.24 and 18.25 ± 5.91 i.u.), and transepidermal water loss (TEWL) (5.15 ± 1.53 and 5.32 ± 1.73 [g/(m²h)]). After 4 weeks of treatment, there was a significant reduction of TEWL (-30% vs -4%), increased skin hydration (118% vs 25%, $p < 0.001$), and clinical dryness improvement for CRM area (56% vs 22%, $p < 0.001$) (Simpson et al., 2015).

There were a couple limitations. One limitation was that the lack of a placebo as the several ingredients in CRM caused difficulties to create a control which can lead to skewed results towards CRM being more favorable. Another limitation is the small sample size. With only 20 individuals being tested, the results that were collected in the study may not be applicable to the population worldwide which shows that more testing is needed.

Akerstrom et al. (2015) conducted a quantitative multicenter study that included two phases: an open label stabilization phase and a double blind, randomized, prospective and parallel group maintenance phase. The study's purpose was to demonstrate that a urea based barrier strengthening moisturizer is more effective in reducing eczema relapse than a reference cream without urea (Akerstrom et al., 2015).

The sample consisted of patients over 18, diagnosed with AD, and with visible AD on part of the body's surface area (at least one's palm size). Out of the n=198 individuals that were tested, the researchers found that the urea based barrier strengthening moisturizer greatly reduced the risk of eczema relapse compared to the reference cream without urea. The risk was reduced by 37% ($p=0.0129$) using a full analysis set (FAS) that included SCORing Atopic Dermatitis (SCORAD), a clinical tool used to determine the extent and severity of eczema. When compared

to the reference cream, the test cream showed a longer median time for eczema relapse which took 22 days as opposed to 15 days (Akertstrom et al., 2015). One limitation of this study was the lack of variability as the individuals of the study were 95.4% and 98.8% Caucasian. The findings may not be applicable to the adult population worldwide and every ethnic group.

Topical Corticosteroid Perceptions Among the Population with AD

Perceptions of topical corticosteroid use have been viewed equally as positive and negative. Understanding the general population's viewpoints on topical corticosteroid use and its effects can help nurses provide the necessary education as well as other alternatives to topical corticosteroids.

Hachem et al. (2017) performed a multicenter, cross-sectional, quantitative study that was conducted in dermatology units and general pediatric units of nine pediatric centers located in Italian cities which included Ancona, Bologna, Cesena, Genoa, Lucca, Naples, Padova, Palermo, and Rome. The study's goal was to investigate the occurrence and risk factors of steroid phobia in a large group of Italian families of pediatric AD patients (Hachem et al., 2017).

Caregivers of the patients answered a self-filling questionnaire that asked about sociodemographic characteristics, previously identified atopic conditions, symptom duration, reason for outpatient visit, clinical characteristic, SCORAD index at visit, quality of life assessment, treatment prescriptions, and previous therapeutic education. Out of the n=302 children/parent groups, the researchers found that a high percentage of patients reported having fears regarding topical corticosteroid (TCS) treatment on a visual analogue scale (VAS). 26.4% had a little fear, 36.8% had moderate fear, 13.7% had a lot of fear, and 4.3% had very much fear. The multivariable analysis identified a couple factors of TCS fear: caregivers believe that the

benefits of TCS do not outweigh the drawbacks and that TCS is dangerous due to a specific side effect from applying too much cream (Hachem et al., 2017).

One limitation of this study is selection bias as patients were only enrolled from the pediatric dermatology clinic. This limitation makes generalizing the results to the worldwide population difficult as there may be other child/parent groups from other pediatric dermatology clinics that may have a favorable view on topical corticosteroid use.

Smith et al. (2017) conducted a multicentered cross sectional survey to evaluate the information given from family, friends, and the internet to parents and patients who use topical corticosteroids long term. Out of the n=201 completed surveys (123 adults and 78 parents of pediatric patients), the researchers found that patients and parents often receive all kinds of messages regarding topical corticosteroid use such as: “try non-prescription creams or ointments before resorting to prescription use of topical corticosteroids” (26.3% from family/friends vs 19.2% from internet, p=0.014). A third of patients received repeated warnings about risks from both family/friends and the internet regarding TCS: “Topical corticosteroids may thin skin,” “Try complementary or alternative medicine before resorting to TCS use,” “TCS cannot be used long term,” “Apply TCS sparingly or thinly.” Information from dermatologists can also heighten risk messages that come from family and friends if proper education wasn’t received. Only a small number of adult patients and parents of children with AD consistently receive both benefits and risk messages of TCS (Smith et al., 2017). A limitation of the study is ethical concerns. Informed consent is needed since parents are involved with the survey. Some parents may not participate in the study due to a consent form which may skew results.

Other Non-Pharmacological Methods to Help Aid with AD

Parents of pediatric patients who deal with AD often seek alternatives to current medications taken. Although moisturizers are a key alternative non pharmacological method to help with symptom management, there are other methods that can help improve a patient's quality of life with AD such as education and creams.

Cheng et al. (2020) conducted an accessor blind, two arm, randomized controlled quantitative trial to lessen children's AD symptoms at three months and to increase parents' self efficacy in eczema management after beginning a nurse-led parental eczema education (PEE) program. In the PEE program that lasted for 30 minutes, interventions included a one-on-one teaching session and instructional videos on appropriate eczema treatment which helped build a more optimistic outlook toward eczema control. Parent-child groups were separated into two groups through randomization of choosing either "1" or "2" that was on a piece of paper from an envelope. One group received standard care while the other group received the allocated intervention. Both children groups received standard eczema treatments such as doctor visits, facial hydrocortisone, and 0.1% mometasone furoate for AD below the neck. AD severity was measured through SCORAD, measurements of skin hydration (SH), TEWL, and a log of additional eczema-related doctors' consultations over the past three months (Cheng et al., 2020).

Out of the n=136 Chinese child-parent groups that participated in the program, Cheng et al. (2020) discovered that the Parent Eczema Education (PEE) program showed massive improvement in children's eczema severity, parental self efficacy, treatment adherence, and the quality of life (QoL) of family members. The SCORAD mean for the intervention group decreased by 20.6 points while the control group decreased 3.4 points (p value <0.001). The mean skin hydration increased by 6.2% in the intervention group while the control group

decreased by 1.6% (p value <0.001). The TEWL mean decreased 1.8g/m^3/h in the intervention group whereas the control group decreased by 0.3g/m^3/h (Cheng et al., 2020).

One limitation of this study is time constraints as recruitment spanned 8 months and took a year to complete. The long timespan to recruit and complete can affect possible eczema exacerbation as there are fluctuations in culture from temperature and humidity that can be triggered. As a result of this, results may be skewed to favor the benefits of the PEE compared to a dermatology clinic.

Lisante et al. (2017) conducted a randomized, double blind, two arm quantitative trial in children who have mild-to-moderate AD. The trial's purpose was to determine the safety and efficacy of an over the counter 1% colloidal oatmeal cream compared with a prescription barrier cream in children with mild-to-moderate AD. Out of the n=90 kids that participated in the trial, the researchers of this study concluded that both treatments demonstrated comparable results in showing improvement in AD in eczema area and severity index (EASI) scores, VAS itch scores, and investigator global atopic dermatitis assessment (IGADA). During each follow-up appointment, both treatment of colloidal and prescription barrier cream led to gradual improvement of each caregiver and patient's rating of signs and symptoms. Both treatments showed an improvement in mean ratings (below 5 to 6 or 7) for skin appearance, dryness, and flakiness. A limitation of this study is the use of two different itch measurements which led to contradictory data on itch parameters (Lisante et al., 2017).

Overall, moisturizer use as a non pharmacological intervention for AD indicated improvement on atopic dermatitis. Education is essential for understanding the effects of topical corticosteroids and using moisturizers properly for symptom management. Parents are important in facilitating care for their children and educating them on proper care is essential to reduce

their child's flare ups of AD. Due to a lack of research, topical moisturizer use among Asian American pediatrics must be studied more in order to determine current studies' efficacy.

Theoretical Framework

Self care is the ability of individuals, families, and communities to promote health, prevent disease, maintain health, and to cope with illness or disability with or without the support of a healthcare provider (World Health Organization, 2023). The Self-Care Deficit Theory developed by Dorothea Orem gives nurses a framework for empowering patients and their families to care for themselves as well as outlining a nurse's role in circumstances where patients are unable to care for themselves or others (Hartweg & Metcalfe, 2021).

Orem provides five methods of helping if a parent is limited in providing care for the child: acting for and doing for others, guiding others, supporting another, providing an environment promoting personal development about future demands, and teaching another (Gonzalo, 2023). Applying Orem's Self-Care Deficit to AD involves identifying the necessary interventions for symptom management and providing education for parents to understand their child's needs. For Asian American pediatrics who suffer from AD, nurses can use Orem's five methods to aid parents by presenting different moisturizers that can help aid with symptom management of AD. Additionally, nurses can provide the necessary education for parents by demonstrating the proper steps in applying moisturizers or topical corticosteroids and providing clear instructions on how to reduce flare ups.

Understanding Orem's Self-Care Deficit Theory allows nurses to understand the strengths of people centered care and interpersonal relationships. Having knowledge of self-care deficit will provide better insight of the proposed study. Moisturizer use and education are key interventions that allow better symptom management of AD.

Research Proposal

The aim of this study is to determine the effectiveness of moisturizers among Asian American pediatrics dealing with atopic dermatitis. A quantitative, quasi-experimental design will be used where 150 participants will be selected. The study will be conducted in a medical clinic or a hospital and the participants will be recruited through flyers that will be posted throughout different hospitals or clinics.

Protocol

Inclusion criteria will consist of participants who have a diagnosis of mild-to-moderate AD, under the age of 18, and from Asian American descent. Exclusion criteria will consist of participants who have had recent use of topical corticosteroids (TCS) within the past 14 days as TCS use can show favorable results towards the study. The process will include an experimental and control group over the course of an 8 week period. Once the 150 participants are selected, they will be randomly placed in either the control or experimental group through a number generator. Both groups will receive education on other non pharmacological methods to help manage AD; however, the control group will not receive the moisturizer intervention. The moisturizer that will be used is Cetaphil Restoraderm Moisturizer (CRM), the same moisturizer used in a study by Simpson et al. (2015), and participants will be educated on what ingredients make up CRM.

Once the study begins, a medical professional will demonstrate CRM use to the parents and will apply CRM on the child's affected areas. Participants will be asked to apply CRM twice a day until the end of the study. After an introductory period, follow-up appointments will be made for the following intervals: Week 2, Week 4, and Week 8 (final period). During these follow-up appointments, measurements such as SCORAD, VAS, and TEWL will determine the

participants' progress throughout the study. Questionnaires will also be given during the follow-up appointments that will ask about the child's quality of life (QoL).

Measurements and Tools

Measurement tools will be used before and after administering the intervention. SCORAD will be used to measure the severity of the participant's AD through area measurement, AD intensity from a score of 0-3 where 0 is 'none,' 1 is 'mild,' 2 is 'moderate,' 3 is 'severe', and patient's subjective score regarding itch and sleepiness through a visual analog scale (VAS) where patient states if they have 'no itch' or 'very itchy' and will be scored based on their answers (Oakley, 2009). TEWL will be used to measure water loss and to determine the skin integrity of the stratum corneum (Green et al. 2022). SCORAD, VAS, and TEWL have been consistently used in the studies mentioned in the literature critique and have shown reliability in showing results regarding AD and the skin.

A self-filling questionnaire will be created and given to parents to fill out regarding their child's quality of life (QoL). Questionnaires will ask about comfort levels, emotional impact of AD, other strategies used to combat AD, impact on social life, itch intensity, and adherence to treatment regimen. This will help the researchers understand the psychological impact of AD on children and parents. The questionnaires will be given before moisturizer intervention (pre-test), during follow-up appointments, and after the eight-week period of using moisturizers (post-test).

Analysis

The independent variable in the study is the Cetaphil Restoraderm Moisturizer while the dependent variable is the severity of atopic dermatitis which will be measured by SCORAD, VAS itch scores, TEWL, and a questionnaire that asks about quality of life before and after the intervention. Descriptive statistics will be used to determine the means between the moisturizer

and control groups while inferential statistics will be used to determine a p-value. If the p-value is < 0.05, the results will be statistically significant and not due to chance which will prove that the hypothesis is true and therefore reject the null hypothesis that moisturizers do not help Asian American pediatrics with AD.

Limitations

Like every research investigation, this proposed study will have its limitations. One limitation will be limited generalizability. Since the study will only consist of Asian American pediatric participants, the results that will be collected cannot be generalized to other ethnicities or adult age groups since there could be different results if the same study were conducted. The study period of 8 weeks can trigger possible AD exacerbation due to external changes in temperature and humidity within the timeframe. With SCORAD, there could be slight measurement errors especially with participants stating their own itch severity which can introduce bias and can skew the results one way or another.

Human subject protection

Measures will be taken to protect participants' well-being and their identity. This study will be sent to the Institutional Review Board (IRB) for approval. Participants will have ID numbered tags to help with identification instead of displaying their own name. Since this study will involve pediatric patients under the age of 18, parents or guardians of the participant must sign a consent form which can be provided in the participant's preferred language. These consent forms state the purpose of the study, risks, benefits, and the ability to withdraw from the study at any point. All data collected will be securely stored during the study and will be destroyed after the study's completion.

Conclusion

In conclusion, AD will continue to affect people and the best way to manage flare ups is through symptom management with pharmacological or non pharmacological methods. There is a gap in the literature with Asian American pediatrics and moisturizer use so this research proposal will help close that gap. The aim of this study is to determine the effectiveness of moisturizers among Asian American pediatrics dealing with AD. As a result of the study, there is an expectation that SCORAD, VAS, and TEWL scores will decrease. Since this study is focused on Asian American pediatrics, the nurse is tasked with understanding cultural differences and developing cultural sensitivity in the care that they offer to patients. Nurses will provide a vital role in empowering parents and patients to care for themselves and improve their own self care. Life with AD will be more manageable with proper education and symptom management techniques. Although this proposal will only focus on Asian American pediatrics, other research can be done in the future with different ethnicities regarding moisturizer use which will close more population group gaps that are present in current literature studies.

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APPENDIX A: LITERATURE REVIEW TABLE

Citation: Simpson, E., Böhling, A., Bielfedlt, S., Bosc, C., & Kerrouche, N. (2015). *Improvement of skin barrier function in atopic dermatitis patients with a new moisturizer containing a ceramide precursor.* Taylor & Francis Online. https://doi-org.dominican.idm.oclc.org/10.3109/09546634.2012.713461

Title of Article: Improvement of skin barrier function in atopic dermatitis patients with a new moisturizer containing a ceramide precursor

Purpose/ Objective of the study: The purpose of this study is to determine the efficacy of Cetaphil Restoraderm Body Moisturizer (CRM) in improving skin barrier function in patients with controlled AD

Sample: Patients who were male or female volunteers from 18-65 years old with controlled AD (no active lesions in the target area) and scoring at least 1 on a dryness scale and a corneometer value less than 30 at inclusion, n=20 (80% female)

Study Design: randomized, intra-individual comparison (right/left, investigator-blinded), single-center study carried out at the proDERM institute in Germany between December 2010 and February 2011.

Study Methods: CRM was applied twice daily on one leg for 27 days and measurements were performed on day 28. CRM ingredients included pseudo ceramide-5, a ceramide precursor that induces synthesis of endogenous ceramides 1, 2, and 3). Subjects remained for 30 minutes during visits in a climatized room where humidity and temperature were controlled. TEWL (transepidermal water loss), corneometry (skin hydration measurement), and clinical dryness evaluation were all measured from baseline (day 1) and day 28. Paired t-test was used to assess statistical significance.

Major Findings:
At baseline, the areas designated to be treated or untreated had similar dry skin clinical scores (2.05 ± 0.63 and 2.07 ± 0.63, respectively), skin hydration (17.77 ± 5.24 and 18.25 ± 5.91 i.u., respectively), and TEWL (5.15 ± 1.53 and 5.32 ± 1.73 [g/(m²h)]).

After 4 weeks of treatment, CRM showed major improvements compared to the control area. There was a significant reduction of TEWL (-30% vs -4%), increased SC hydration measured by corneometry (118% vs 25%, $p < 0.001$), and clinical observation of dryness showed superior improvement for CRM area (56% vs 22%, $p < 0.001$).

Strengths: Participants are randomized into groups to reduce bias and there is a clear research objective

Limitations: There is an untreated control used instead of a placebo as the several ingredients in CRM made it difficult to control, researchers did not evaluate subjects for FLG mutations, and a small sample size makes it difficult to generalize results to an entire population.

Citation: Åkerström, U., Reitamo, S., Langeland, T., Berg, M., Rustad, L., Korhonen, L., Wirén, K., Grände, M., Skare, P., Svensson, A. (2017). *Comparison of Moisturizing Creams for the Prevention of Atopic Dermatitis Relapse: A Randomized Double-blind Controlled Multicentre Clinical Trial.* ActaDV. 10.2340/00015555-2051.

Title of Article: Comparison of Moisturizing Creams for the Prevention of Atopic Dermatitis Relapse: A Randomized Double-blind Controlled Multicentre Clinical Trial

Purpose/Objective of the study: A barrier strengthening moisturizer (with urea) is superior to reference cream (without urea) in preventing eczema relapse in AD patients

Sample: Patients over 18, diagnosed with AD, and with visible atopic eczema of body surface area (at least a size of one's palm). Total of 198 patients

Study Design: Quantitative, multicentre study that was 2 phases: open label stabilization phase and a double blind randomized, prospective and parallel group maintenance phase

Study Methods: A stabilization phase (visit 1) was performed where patients were treated with once daily topical mometasone furoate cream 0.1% on the trunk and extremities. Patients also used a medicinal moisturizer using 20% glycerolon study areas as well as other dry areas. Patients came back for visit 2 where their eczema was evaluated and determined if eczema has cleared. Patients who had cleared or almost cleared AD entered the maintenance phase whereas patients with ongoing AD are continuing with the stabilization phase for an extra week before reevaluation

During the maintenance phase, the test cream or reference cream was applied twice daily on study areas and on other dry areas until eczema relapsed or until end of maintenance phase (day 180). Patients were asked to come in and were assessed by SCORAD and Investigator's Global Assessment during visits 2, 3, and 4. Patients were asked to fill out a health questionnaire that asked about QoL from mobility, self care, usual activities, pain/discomfort, anxiety/depression

Major Findings: There was a clear effect of treatment as the risk of eczema relapse was reduced when using the test cream compared with the reference cream. Patients with AD can delay eczema by regular use containing urea containing cream compared to a reference cream

The risk was reduced by 37% using a full analysis set (FAS). Test cream showed significantly prolonged estimated median time to relapse compared to reference cream (22 days vs 15 days). A p value of 0.0129. Patients with AD can delay eczema relapse.

Strengths: Design has a large sample size, design study is random to reduce bias, clear research objectives, control group stated

Limitation: Results are too general since the study mostly consists of Caucasian (95.4% and 98.8% respectively) and cannot be applied to other ethnicities (a need for variation).

Citation: Hachem, M. E., Gesualdo, F., Giampaolo, R., Diociaiuti, A., Giraldi, L., Ametrano, O., Occella, C., Fortina, A. B., Milioto, M. Arcangeli, F., Simonetti, O., Giancristoforo, S., Calamelli, E., Mazzatenta, C., & Neri, I. (2020). *Topical corticosteroid phobia in parents of pediatric patients with atopic dermatitis: a multicentre survey*. Italian Journal of Pediatrics. https://doi.org/10.1186/s13052-017-0330-7

Title of Article: Topical Corticosteroid Phobia in Parents of Pediatric Patients with Atopic Dermatitis: A Multicentre Survey

Purpose/ Objective of the study: The purpose of this study is to investigate the prevalence and determinants of steroid phobia in a large group of Italian families of pediatric patients affected with AD

Sample: n=302 children under the age of 18 and with a diagnosis of AD. Patients excluded are patients who have contraindications with TCS

Study Design: multicenter, cross-sectional, quantitative study conducted in dermatology units and general pediatric units of 9 pediatric centers located in 9 Italian cities (Ancona, Bologna, Cesena, Genoa, Lucca, Naples, Padova, Palermo, Rome)

Study Methods: self-filling questionnaire given to one of caregivers attending the patient that included sociodemographic characteristics, previously identified atopic conditions, symptom duration, reason for outpatient visit, clinical characteristic, SCORAD index at visit, quality of life assessment, treatment prescriptions, previous therapeutic education

The last set of the questionnaire included a standardized set of questions on corticosteroid fear separated into 3 sections. 1st section was about the investigation of TCS fear based on 10 point visual analogue scale (VAS). 2nd section asked about specific fears and beliefs on TCS through 21 items and measured through 4 point Lickert scale. 3rd section asked about parents' behavior frequency regarding TCS treatment measured on a 4 point Lickert scale

Major Findings: A high proportion of patients reported having fears regarding TCS treatment at VAS scale. 26.4% had a little fear, 36.8% had moderate fear, 13.7% had a lot of fear. 4.3% had very much fear. The multivariable analysis identified a few items of TCS fear: caregivers believe that TCS treatment advantages do not overweigh disadvantages, TCS is dangerous due to a specific side effect, fear of applying too much cream

Strengths: There is a clear research objective and the sample size is large which strengthens its statistical significance.

Limitations: There is a selection bias as patients were only enrolled from pediatric dermatology outpatient clinics which can skew results. There is a need for exploration of other ethnicities regarding TCS and results may not be generalizable to the entire population since study was focused in Italian cities. TCS phobia score is a limitation as it was not as precise as the Aubert-Wastiaux score that was used had a newer scale. There are also ethical considerations as informed consent from caregivers to fill out forms are needed due to underage participants.

Citation: Smith, S. D., Farrugia, L. L., Harris, V., Lee, A., Carter, S. R., Blaszczynski, A., Fischer, G. (2017). *Evaluation of the influence of family and friends, and the Internet on patient perceptions of long-term topical corticosteroid use.* Taylor & Francis Online. http://dx.doi.org/10.1080/09546634.2017.1306017

Title of article: Evaluation of the influence of family and friends, and the Internet on patient perceptions of long-term topical corticosteroid use

Purpose/Objective of the study: To assess information from family, friends and the internet from parents and patients who use topical corticosteroids long term

Sample: patients aged 18 or older and parents of patients under 18 with a history of AD requiring long term (more than 1 month) TCS use who have received information about TCS from family/friends and the internet. 201 completed surveys (123 adult, 78 parents of pediatric patients)

Study Design: multicentered cross sectional survey

Study Methods: cross sectional survey with the following information collected (demographics, rates of TCS treatment adherence, reasons for non adherence, beliefs regarding TCS concerns/necessity/self efficacy, beliefs regarding consistency/reliability of information sources, frequency of messages received from community pharmacists/general practitioners/family/friends/internet regarding risks and benefits of TCS
Questions were ordered randomly so that related statements were not clustered together and positive/negative statements were spread out. Questions were also without jargon or abbreviations

Major Findings: Researchers used a wilcoxon signed rank test
Patients and parents often receive message "try non-prescription creams/ointments before resorting to prescription use of topical corticosteroids (26.3% from family/friends vs 19.2% from internet, p=0.014)
Often see risk messages from both sources (family/friends and internet), a third of patients received multiple formative risk messages
"Topical corticosteroids may think skin"
"Try natural or CAM before resorting to TCS use"
"TCS cannot be used long term"
"Apply TCS sparingly or thinly"
Risk messaging from dermatologists can exacerbate risk messages received from family and friends
Only a minority of patients and parents of children with AD consistently receive both benefits and risk messages of TCS

Strengths: randomizing of questions to reduce bias, large sample size

Limitation: The sample size is not equal between pediatric participants and adult groups which can cause inaccuracies with results. There are also ethical considerations as there is a need for informed consent and parents to be involved with survey.

Citation: Cheng, N. S., Chau, J. P. C., Lo, S. H. S., Choi, K. C., Hon, K. L. E., Lam, P. H., Leung, T. F. (2020). *Effects of a self-efficacy theory-based parental education program on eczema control and parental outcomes.* Wiley Online Library. https://doi.org/10.1111/pai.13421

Title of article: Effects of a self-efficacy theory-based parental education program on eczema control and parental outcomes

Purpose/Objective of the study: The purpose of this study is to enhance parents' self efficacy in eczema management and reduce children's eczema symptoms at three months after beginning the nurse-led parental eczema education (PEE) program.

Sample: Children aged 3 months to 12 years old with moderate-to-severe eczema and their parents. Sample size of 136 child-parent groups. Chinese population
Study Design: An accessor blind, 2 arm, randomized controlled trial

Study Methods: The PEE program intervention included a 30 minute face to face education session that consisted of one-on-one teaching and demonstration videos on appropriate eczema treatment and helping build a more positive mindset toward eczema control. Parent-child groups were separated into two groups through randomization of choosing either "1" or "2" that was on a piece of paper from an envelope. One group received standard care while the other group received the allocated intervention. Children in both groups received standard eczema treatments such as doctor consultations, hydrocortisone for the face and 0.1% mometasone furoate for eczema below the neck. Severity was measured through SCORAD, measurements of skin hydration (SH), transepidermal water loss (TEWL), and record of extra eczema-related doctors' consultations over past three months

Major Findings: SCORAD mean for intervention group decreased by 20.6 points while control group decreased 3.4 points, p value <0.001. Mean SH increased by 6.2% in the intervention group while the control group decreased by 1.6%, p value <0.001. TEWL mean decreased 1.8g/m^3/h in the intervention group whereas control group decreased by 0.3g/m^3/h.
PEE program showed massive improvement in children's eczema severity, parental self efficacy, treatment adherence, and QoL of family members

Strengths: The article is peer reviewed, a strong research objective is stated, and there is statistical significance with a low p-value

Limitations: There were time constraints as recruitment spanned eight months and took a year to complete which can affect possible eczema exacerbation as there are fluctuations in culture from temperature and humidity that can be triggered. There was a difficulty of blinding participants especially with limited representativeness since it was only done at one center. The data collection was collected at three months which should have been at twelve months.

Citation: Lisante, T. A., Nuñez, C., Zhang, P. (2017). *Efficacy and safety of an over-the-counter 1% colloidal oatmeal cream in the management of mild to moderate atopic dermatitis in children: a double-blind, randomized, active-controlled study.* Taylor & Francis Online. https://doi.org/10.1111/pai.13421

Title of article: Efficacy and safety of an over-the-counter 1% colloidal oatmeal cream in the management of mild to moderate atopic dermatitis in children: a double-blind, randomized, active-controlled study

Purpose/Objective of the study: The purpose of the study is to evaluate the efficacy and safety of a over the counter 1% colloidal oatmeal cream versus a prescription barrier cream in children with mild-to-moderate AD

Sample: 90 kids who were ages 6 months to 18 years of age with mild to moderate AD

Study Design: randomized, double blind, two arm trial in children with mild-to-moderate AD

Study Methods: trial was conducted at two centers: Hill Top Research (St. Petersburg, FL) and HTR Miamiville, OH. Patients were randomized in a 1:1 ratio to either apply the OTC 1% oatmeal cream or prescription barrier cream twice daily on lesions. Clinical assessments were performed at baseline (day 0), follow up days 7, 14, 21.

Stats used to measure area was the Eczema Area and Severity index (EASI) in four regions (head/neck, trunk, upper/lower limbs), Investigator's Global Atopic Dermatitis Assessment (IGADA), and caregiver's assessment of itching on a 10 cm Visual Analog Scale (VAS). Others included quality of life questionnaires including signs/symptoms of AD, product rating, and overall product performance for AD.

Major Findings: Both treatments show comparable results in showing improvement in AD in EASI scores, VAS itch scores, IGADA. There was progressive improvement in caregiver's/patients' rating of signs and symptoms at each follow up point for both treatments of colloidal cream and prescription barrier cream. Mean ratings for skin appearance, dryness/flakiness improved from below 5 to between 6-7

Strengths: The article had a clear research objective and the design was randomized to reduce bias.

Limitations: There was use of 2 separate itch evaluations that yielded contradictory data on itch parameters. The small sample size can make results not generalizable to the entire population. There is also a need for more information about sample size (ethnicity) to determine if the results could be generalized to a certain population or an entire population.