Abstract of dissertation entitled

“The Evidence-based Guideline of Nursing Consultation Session for Children with Atopic Dermatitis”

Submitted by

WONG SIU LEUNG

for the Degree of Master of Nursing
at The University of Hong Kong
in July 2013

Atopic dermatitis (AD) is one of the most common chronic dermatological diseases. It has affected up to a fifth of schoolchildren and their caregivers. It will alter not only children’s physical health, but also worsen the quality of life among children and their family. This global public health problem also increased the financial and social burden to healthcare system in the past decades.

Educational intervention has been proved to be an adjunct to current treatment to restore the altered quality of life and skin condition effectively. It could be simply carried out by trained nurses in the routine practice to educate patients about proper AD management. However, such intervention is seldom mentioned in the local setting. Therefore, it is essential to establish an effective evidence-based guideline of nursing consultation in order to enhance patients’ clinical outcomes.

The objectives of this study are to search and synthesize current literatures systematically in educational interventions for AD children for reducing disease severity and improving quality of life, to assess the implementation potential of
identified educational interventions, to develop an evidence-based guideline of nursing consultation for providing better skin care to the AD children and to develop the implementation and evaluation plan the proposed intervention.

Nursing consultation session for AD children is proposed in this study. The target population and setting are AD children aged from 4-16 years attending to one of the local public dermatological outpatient clinics. Evidence and relevant data are yielded from eight high-quality studies. The potential of implementing the proposed intervention is assessed based on the transferability of the findings, feasibility and the cost-benefit ratio. An evidence-based guideline is eventually developed with the best evidence-based findings. At last, an implementation plan and evaluation plan for the proposed guideline are well designed.

This evidence-based guideline is designed to improve the quality of life and reduce the severity of skin condition of AD children. It is recommended to establish to all dermatological outpatient clinics locally.
The Evidence-based Guideline of Nursing Consultation Session for Children with Atopic Dermatitis

by

WONG SIU LEUNG

BSc(Hons) NURS, R.N.

A dissertation submitted in partial fulfillment of the requirements for the Degree of Master of Nursing at The University of Hong Kong

July 2013
Declaration

I declare that this thesis thereof represents my own work, except where due acknowledgement in made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or to any other institution for a degree, diploma or other qualifications.

Signed ……………………………………………………………..

WONG SIU LEUNG
Acknowledgements

I would like to express my appreciation and sincere gratitude to my dissertation supervisor, Dr. Athena HONG from the School of Nursing in The University of Hong Kong. I could not complete the dissertation without her timely guidance and enthusiastic support over the past two years.

Also, I would like to take this opportunity to thank the Public Health Nursing Division and Social Hygiene Service of the Department of Health for offering me the sponsorship and assistance to study this Master Program.

I would also like to present my sincere thanks to Ms CHAN Toi-lan, Senior Nursing Officer of my service, for her support and sharing in encouraging me enrolling this program. Here I must show my gratefulness to my supervisors and all my colleagues for their cooperation and patience during my study period.

Last but not least, I need to express my heartfelt thanks to my wife and two lovely daughters for supporting me with their endurance and understanding. I would like to share the honour with them.
Contents

Declaration................................................................................................. i
Acknowledgements.................................................................................... ii
Table of Contents....................................................................................... iii
List of Appendices......................................................................................... vi
Abbreviations................................................................................................ vii

Chapter 1 – Introduction ......................................................................... 1
  1.1 Background.......................................................................................... 2
  1.2 Affirming the Need.............................................................................. 4
    1.2.1 Elevated demand in proper AD management............................... 4
    1.2.2 Impaired quality of life............................................................... 5
    1.2.3 Poor skin condition and steroid phobia..................................... 6
    1.2.4 Lack of patient education.......................................................... 6
  1.3 Research Question, Objectives, Significance................................. 8
    1.3.1 Research question...................................................................... 8
    1.3.2 Objectives................................................................................... 8
    1.3.3 Significance................................................................................. 8

Chapter 2 – Critical Appraisal ................................................................. 11
  2.1 Searching Strategies........................................................................... 11
    2.1.1 Search methodology.................................................................... 11
    2.1.2 Keywords................................................................................... 11
    2.1.3 Selection criteria......................................................................... 12
  2.2 Appraisal Strategies........................................................................... 12
  2.3 Appraisal Results................................................................................ 13
    2.3.1 Searching results......................................................................... 13
    2.3.2 Overview of the selected studies............................................... 13
    2.3.3 Randomization............................................................................ 14
    2.3.4 Blinding process.......................................................................... 15
    2.3.5 Missing data................................................................................. 15
    2.3.6 Data collection............................................................................. 16
    2.3.7 Power calculation......................................................................... 16
    2.3.8 Main results and precision of results......................................... 16
    2.3.9 Application to local setting......................................................... 17
    2.3.10 Summary of quality appraisal.................................................. 17
  2.4 Summary and Synthesis of Findings................................................ 17
2.4.1 Patient characteristics ......................................... 18  
2.4.2 Intervention...................................................... 19  
2.4.3 Comparison..................................................... 20  
2.4.4 Outcome measures............................................. 20  
2.4.5 Effect size....................................................... 22  
2.5 Implication.......................................................... 23  

Chapter 3 – Innovation .............................................. 24  
3.1 Name of the Educational Program................................. 24  
3.2 Target Audience.................................................... 24  
3.3 Target Setting....................................................... 24  
3.4 Target Staff......................................................... 24  
3.5 Length of Follow up............................................... 25  
3.6 Patient Education Tools.......................................... 25  
3.7 Activities Schedule............................................... 25  
3.8 Conclusion........................................................... 27  

Chapter 4 – Implementation Potential ............................ 28  
4.1 Target Audience.................................................... 28  
4.2 Target Setting....................................................... 28  
4.3 Transferability of the Findings.................................... 29  
4.3.1 Fitness of the setting.......................................... 29  
4.3.2 Characteristics of target population.......................... 29  
4.3.3 Philosophy of care............................................ 30  
4.3.4 Time frame...................................................... 30  
4.4 Feasibility............................................................. 31  
4.4.1 Frontline user support........................................ 31  
4.4.2 Administrative support....................................... 31  
4.4.3 Nurse training and equipment............................... 32  
4.4.4 Measuring tools for evaluation............................. 33  
4.5 Cost-benefit Ratio of Innovation................................. 33  
4.5.1 Patients’ potential risks and benefits....................... 33  
4.5.2 Potential risks and benefits towards staff and clinic...... 34  
4.5.3 Potential material costs and benefits of innovation..... 35  
4.5.4 Potential non-material costs and benefits of innovation .................................................. 35
Chapter 5 – Developing an Evidence-Based Practice Guideline

5.1 Background.................................................................................................................. 36
5.2 Title of the Evidence-Based Practice Guideline....................................................... 37
5.3 Target Population......................................................................................................... 37
5.4 Target Users of the Guideline.................................................................................... 37
5.5 Aim of the Guideline................................................................................................. 37
5.6 Objectives of the Guideline....................................................................................... 38
5.7 Practice Recommendations....................................................................................... 38

Chapter 6 – Implementation Plan

6.1 Communication Plan.................................................................................................. 44
   6.1.1 Identifying the stakeholders................................................................................ 45
   6.1.2 The process of communication plan..................................................................... 46
   6.1.3 Initiating, guiding and sustaining the change.................................................... 49
6.2 Pilot Study Plan........................................................................................................... 50
   6.2.1 Objectives........................................................................................................... 51
   6.2.2 Recruitment of pilot study.................................................................................. 51
   6.2.3 Time frame.......................................................................................................... 52
   6.2.4 Method............................................................................................................... 52
   6.2.5 Pilot review......................................................................................................... 53

Chapter 7 – Evaluation Plan

7.1 Outcomes to Be Achieved......................................................................................... 55
   7.1.1 Patient outcomes................................................................................................. 55
   7.1.2 Healthcare provider outcomes.......................................................................... 56
   7.1.3 System outcomes............................................................................................... 57
7.2 Evaluation Design...................................................................................................... 57
7.3 Nature and Number of Patients Involved................................................................. 58
7.4 When and How Often to Take Measurements........................................................ 58
7.5 Data Analysis............................................................................................................. 59
7.6 Basis for an Effective Intervention........................................................................... 59

Chapter 8 – Conclusion

Appendices

References
## List of Appendices

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Searching Strategies and Results</td>
<td>63</td>
</tr>
<tr>
<td>B</td>
<td>Quality Appraisal Tool</td>
<td>65</td>
</tr>
<tr>
<td>C</td>
<td>Key to evidence statements and grades of recommendations</td>
<td>69</td>
</tr>
<tr>
<td>D</td>
<td>Tables of Evidence</td>
<td>70</td>
</tr>
<tr>
<td>E</td>
<td>Tables of Quality Appraisal</td>
<td>78</td>
</tr>
<tr>
<td>F</td>
<td>Summary of Quality Appraisal</td>
<td>86</td>
</tr>
<tr>
<td>G</td>
<td>Time Frame for Communication Plan &amp; Pilot Study Plan</td>
<td>87</td>
</tr>
<tr>
<td>H</td>
<td>What is SCORing of Atopic Dermatitis (SCORAD)?</td>
<td>88</td>
</tr>
<tr>
<td>I</td>
<td>Children’s Dermatology Life Quality Index (CDLQI)</td>
<td>89</td>
</tr>
<tr>
<td>J</td>
<td>Client Satisfaction Questionnaire-8 (CSQ-8)</td>
<td>93</td>
</tr>
</tbody>
</table>
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full text</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD</td>
<td>Atopic Dermatitis</td>
</tr>
<tr>
<td>CASP</td>
<td>Critical Appraisal Skills Programme</td>
</tr>
<tr>
<td>CDLQI</td>
<td>Children’s Dermatology Life Quality Index</td>
</tr>
<tr>
<td>CG</td>
<td>Committee Group</td>
</tr>
<tr>
<td>CNE</td>
<td>Continuous Nursing Education</td>
</tr>
<tr>
<td>COS</td>
<td>Chief of Service</td>
</tr>
<tr>
<td>CSQ-8</td>
<td>Client Satisfaction Questionnaire-8</td>
</tr>
<tr>
<td>DFI</td>
<td>Dermatitis Family Impact</td>
</tr>
<tr>
<td>FAQs</td>
<td>Frequently Asked Questions</td>
</tr>
<tr>
<td>GOPC</td>
<td>General Outpatient Clinic</td>
</tr>
<tr>
<td>IDQOL</td>
<td>Infant Dermatitis Quality of Life</td>
</tr>
<tr>
<td>MOs</td>
<td>Medical Officers</td>
</tr>
<tr>
<td>n</td>
<td>Number</td>
</tr>
<tr>
<td>NO</td>
<td>Nursing Officer</td>
</tr>
<tr>
<td>p</td>
<td>Significance Level</td>
</tr>
<tr>
<td>RCTs</td>
<td>Randomized Controlled Trials</td>
</tr>
<tr>
<td>RNs</td>
<td>Registered Nurses</td>
</tr>
<tr>
<td>SCORAD</td>
<td>SCORing of Atopic Dermatitis</td>
</tr>
<tr>
<td>SD</td>
<td>Standard Deviations</td>
</tr>
<tr>
<td>SIGN</td>
<td>Scottish Intercollegiate Guidelines Network</td>
</tr>
<tr>
<td>SNOs</td>
<td>Senior Nursing Officers</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for The Social Sciences</td>
</tr>
<tr>
<td>TCM</td>
<td>Traditional Chinese Medicine</td>
</tr>
</tbody>
</table>
Chapter 1
Introduction

Atopic dermatitis (AD), also known as atopic eczema, is one of the most common chronic dermatological disorders affecting up to a fifth of schoolchildren (Williams, Robertson & Stewart, 1999). It is a pruritic, relapsing skin problem without cure, and always causes disturbing symptoms such as itching, scratching, sleeplessness in children and infants (Staab et al., 2006). It posed a psychosocial burden on children and their families and affected the quality of life among patients and parents (Lawson, Lewis-Jones, Finlay, Reid & Owens, 1998; Chamlin, Frieden, Williams & Chren, 2004; McKenna et al., 2005).

AD has produced significant impacts on patients’ skin condition and quality of life. There is an increasing demand for the specific and well-organized educational program in managing AD by patients themselves (Lewis-Jones, 2006). However, the traditional approach of AD management targets on physician’s decision of treatment in reducing the disease severity, with scanty focus on education to patients and caregivers (Thstrup-Pedersen, 2005). Cork, Britton, Butler, Young, Murphy and Keohane (2003) reported that about 95% of parents of children with AD received little to no information about the nature of disease or how to apply topical medication properly from their recent consultations. Thus, nurses who
deliver health care are meritorious members of dermatology team especially in providing essential support and education to patients in disease management (Williams, 2010).

Education program is very important to empower patients and caregivers to solve problems arising from chronic diseases (Williams & Schneiderman, 2002). It is beneficial in maximizing the understanding and concordance with treatment in children with eczema (Cox et al., 2011). Nursing consultation session, as an adjunct to current treatment to reduce the disease severity and improve quality of life, might be considered as a new trend in dermatology.

The chosen topic of this study is “the evidence-based guideline of nursing consultation session for children with atopic dermatitis” and the target groups are children aged 4 to 16 years with atopic dermatitis and their caregivers. Before performing the critical appraisal of the selected literature, the importance of translating the best evidence into practice would be first discussed in terms of background information, affirming its need and significance.

1.1 Background

AD is a major public health problem globally and affects up to 16-21% of children in the Western countries including United Kingdom, Germany and United States (Kalavala & Dohil, 2011; Schut, Mahmutovic, Gieler & Kupfer,
The prevalence has steadily increased by 2 to 3 folds during the past 30 years in industrialized communities (Chida, Steptoe, Hirakawa, Sudo & Kubo, 2007). The situation is similar in Hong Kong that about 5.6% of young children (2-6 years), 3.8% of primary school children (6-7 years) and 3.8% of adolescents (13-14 years) were suffered from AD (Leung et al., 2009). A study of Yeung, Chow, Chan and Ho (2010) also suggested AD affects nearly 20% of Hong Kong schoolchildren aged 7 years or older. The financial burden of society towards this health issue is very heavy (Emerson, Williams & Allen, 2001; Herd, 2002). A systematic review (Mancini, Kaulback & Chamlin, 2008) showed that the national direct cost in managing AD ranged widely from US$364 million to US$3.8 billion. The financial impact was significant and likely comparable to other diseases with large annual economic burdens such as psoriasis (US$650 million) and asthma (US$14 billion).

The symptoms of AD would create multiple problems such as itchiness, sleeplessness, skin erosions, altered appearance and absence from schools. According to the visible nature of skin problem, the impacts always cause substantial stress to patients including negative self-image (Arndt, Smith & Tausk, 2008). The stress level always associated with the severity of skin problem. This psychological disturbance in patients might lead to damage in self-esteem and
their abilities to cope with the disease and adherence to treatment (Wittkowski, Richards, Griffiths & Main, 2004), which eventually resulted in a worsen skin condition. This would affect the quality of life among children and parents since much more time is used to manage the disease.

In Hong Kong, counseling and education for children and their parents in managing AD is seldom mentioned although many studies have emphasized the benefits gained from this practice. A systematic review done by Courtenay and Carey (2006) stated that nurses frequently play chief roles in caring of patients with dermatological problems. Reduction in disease severity and more appropriate topical steroids usage are reported as main results of additional nursing consultation after conventional dermatological care. It is believed that care by nurses instead of dermatologists may decrease the workload of dermatologists and the costs of treatment while maintaining or even enhancing the quality of care (Schuttelaar, Vermeulen, Dukker & Coenraads, 2010). Because of the importance of psychological consequences and benefits of nursing education, establishment of nursing consultation which is expected to improve quality of life and disease control in dermatology clinics is highly advisable.

1.2 Affirming the Need

1.2.1 Elevated demand in proper AD management
According to the report of Hon, Leung and Fok (2004), it showed that about one third of new referrals to the pediatric dermatology clinic of one Hong Kong Public Hospital in 2000 were being diagnosed as AD. The demand of proper AD management among patients and parents is high and complex. Patients who have inadequate understanding of the disease nature and treatment plan often get poor clinical outcomes (Armstrong, Kim, Idriss, Larsen & Lio, 2011). Poor control of childhood atopic dermatitis would lead to related atopic diseases in adulthood. In fact, approximately one third of patients with AD persist with AD into adult life (Cox et al., 2011). This causes long-term impact to their quality of life.

1.2.2 Impaired quality of life

However, according to Lam’s report in 2010, quality of life assessment was performed inadequately in the local dermatology clinics. She pointed out that dermatologists in Hong Kong mostly focused on the clinical assessment of disease severity, in which was not sensitive enough to assess the health related quality of life of AD patients. In order to measure the quality of life of children with AD, children’s dermatology life quality index (CDLQI) which consisted 10 questions with relation to different aspects was used. The summation of score ranged from 0 to 30. Patients with the higher score would have greater quality of life impairment. Her study showed that the mean score ±SD of CDLQI among participants aged 3
to 16 years was 7.7 ±6.0. Compared to mean score of the normal population which ranged from 0.0 to 0.5, the quality of life of children with AD in Hong Kong was impaired (Lam, 2010).

1.2.3 Poor skin condition and steroid phobia

Under the influence of the Chinese culture, some Hong Kong parents would try to apply different kinds of Chinese herbs or cream to treat the skin problems of their children. According to the daily clinical experience, they would also get some unknown pills or lotions from private Chinese medical practitioners for their children in controlling the severity of skin condition. Most of them were reluctant to use the medication prescribed to their children by dermatologists due to steroid phobia. A recent study in Japan (Kojima et al., 2013) showed that there were overall 38.3% of the caregivers were reluctant to use topical corticosteroid on their children’s skin. However, the improper regimen of treatment generally could not help to improve the skin condition. Parents would then experience helplessness, frustration, exhaustion, guilt and even resentment due to their children’s skin problems (Lapidus, Schwartz & Honig, 1993).

1.2.4 Lack of patient education

Although the quality and quantity of medications in treating AD improved significantly in the past decades, the expectations of patients were still partially
met. Previous studies showed that majority of patients attending a dermatology consultation complained that there was insufficient time to understand their current skin condition, explain the nature of AD and give advice on how to use medications prescribed (Jowett & Ryan, 1985; Long, Funnell, Collard & Finlay, 1993; Cork et al., 2003). Failure to perform effective patient education would lead to poor treatment compliance and efficacy together with patient dissatisfaction. This increased the number of further medical and dermatological consultations in treating patients with relapsing and worsening AD. It is very common to see patients and their relatives, approximately 1-2 cases per day, asking for early appointment for managing their AD exacerbation in routine practice. Nurses spend large amount of time and effort to handle these cases.

Numerous studies (Grillo, Gassner, Marshman, Dunn & Hudson, 2006; Staab et al., 2006; Moore, Williams, Manias, Varigos & Donath, 2009; Schuttelaar et al., 2010) proved that provision of patient education or nursing consultation to AD patients and caregivers can significantly reduce the disease severity and improve quality of life. Due to limited time of normal medical consultation, nursing consultation is suitable to clarify the misunderstandings towards AD. It is important to establish an effective evidence-based practice in local setting for meeting patients’ needs.
1.3 Research Question, Objectives, Significance

1.3.1 Research question

The research question of this proposed study is: “In dermatological outpatient clinic, how effective of additional nurse consultation for children with atopic dermatitis in comparison with the usual care in reducing the severity of skin condition and improving their quality of life?”

1.3.2 Objectives

(1) To search and synthesize research evidence systematically in educational interventions for children with AD in order to reduce disease severity and improve quality of life.

(2) To perform a quality assessment of the implementation potential of the identified interventions from the literature.

(3) To develop an evidence-based practice guideline in terms of nursing consultation in reducing the severity of skin condition and improving quality of life of the target patients.

(4) To develop implementation and evaluation plan for the proposed intervention.

1.3.3 Significance

As mentioned before, lack of patient education is a significant problem for children with AD in managing the disease. This would alter the treatment efficacy
and induce exacerbation which generally increases the additional medical consultations. A strong and effective evidence-based educational intervention should create great benefits to patients, healthcare professionals and the dermatology clinics.

The proposed intervention provides clear and detailed information about the disease nature and treatment regimen to patients and the caregivers. Training and demonstration in applying the topical medication is helpful to build up their faith in managing the disease. Adequate communication between patients and healthcare professionals including active listening and clear explanation is also a key determinant to obtain the best treatment outcome (Bradley, 1999; Mullen, 1997). The severity of skin condition and quality of life among patients could be improved through the educational intervention. As a result, patient satisfaction is enhanced since a better treatment outcome has been obtained.

A strong evidence-based practice guideline could help healthcare professionals make the best decision in providing care. The quality of care would probably improve. The intervention could empower patients in managing disease and reduce the extra consultations. Medical officers (MOs) and nurses would have more time to take care of other patients. Nurses could handle less cases asking for early appointment for their AD exacerbation and they could concentrate on their
nursing intervention and care to patients.

For the dermatology clinics, the intervention could reduce the financial burden to treat patients with relapsing and worsening AD. The waiting time for the first consultation of a new patient could be shortened since MOs were no need to treat too much relapsing AD patients. The quality of service could be better.

In general, an effective evidence-based educational intervention could improve patients’ skin condition and quality of life, enhance quality of care provided by healthcare professionals and reduce the financial burden of dermatological service.
Chapter 2
Critical Appraisal

After affirming the needs and emphasizing the significance in development of an evidence-based educational intervention for AD patients, it is here going to discuss the searching strategies, appraisal strategies and summary of findings.

2.1 Searching Strategies

2.1.1 Search methodology

From 21 July 2012 to 12 August 2012, a systematic literature review was conducted using computerized database and journals provided by the Library of the University of Hong Kong. All articles were searched through the electronic database including PubMed (earliest to July, 2012), Medline (1946- Aug, 2012) and Cochrane Library (earliest to July, 2012). No limitations and restrictions were set during the search. All reference lists of the relevant articles were screened manually for additional articles.

2.1.2 Keywords

The keywords used in the searching strategy related to the research question of this study. They included population (‘atopic dermatitis’, ‘atopic eczema’, ‘dermatitis’, ‘eczema’, ‘child’ and ‘childhood’), intervention (‘patient education’, ‘education’, ‘eczema workshop’, ‘dermatitis workshop’ and ‘workshop’) and
outcome measures (‘quality of life’, ‘skin severity’ and ‘SCORAD’). The keywords were used individually and then combined in order not to miss any relevant articles.

2.1.3 Selection criteria

In order to select the suitable and relevant articles, a number of selection criteria were established.

The inclusion criteria:

- Studies were randomized controlled trials (RCTs)
- Studies reported in English
- Studies involved children (aged from 0-18 years) with atopic dermatitis
- Studies involved patient education as intervention

The exclusion criteria:

- Studies without full text available
- Studies involved patients with other kind of skin diseases
- Studies involved patients receiving systemic treatment such as oral steroids

The details of the searching strategies and results were shown in Appendix A.

2.2 Appraisal Strategies

All selected papers then proceeded to the quality assessment. In order to critique
the selected papers, Critical Appraisal Skills Programme (CASP) appraisal tool is used to evaluate the study methods and results (Guyatt, Sackett & Cook, 2003). There are 10 questions guiding author to assess the quality of each study (see Appendix B). According to Scottish Intercollegiate Guidelines Network (SIGN) (Harbour, 2008) (see Appendix C), the level of evidence of selected studies is also determined.

2.3 Appraisal Results

2.3.1 Searching results

There were 114 citations found by the combination of searching keywords through three electronic databases. After applied the inclusion and exclusion criteria, seven relevant studies were selected. There was one additional article retrieved after manual screening the reference lists of these selected articles. There were total eight papers selected for critical appraisal in this study. The summary of study type, level of evidence, patient characteristics, intervention, comparison, length of follow up, outcome measures and effect size of these studies was presented in the tables of evidence (see Appendix D).

2.3.2 Overview of the selected studies

All studies (n=8) were published within 10 years (from 2002 to 2010). All of them were RCTs: Chinn, Poyner and Sibley (2002); Grillo et al. (2006); Staab et al.
They were carried out in different countries such as United Kingdom (Chinn et al., 2002), Australia (Grillo et al., 2006; Moore et al., 2009), Germany (Staab et al., 2006; Kupfer et al., 2010), United States (Shaw et al., 2008), Brazil (Weber et al., 2008) and Netherlands (Schuttelaar et al., 2010). The quality assessment of each study was listed in the tables of quality appraisal (see Appendix E).

Clearly-focused questions were asked in each study. All questions focused on the effects of educational intervention towards skin severity and quality of life among children with atopic dermatitis.

### 2.3.3 Randomization

All studies (n=8) stated that the participants were randomly allocated to the intervention group or control group. Five of them clearly stated the randomization process by means of computerized software or random number generator (Chinn et al., 2002; Grillo et al., 2006; Staab et al., 2006; Moore et al., 2009 & Schuttelaar et al., 2010). Six studies showed no significant differences between intervention group and control group at the entry to the trials while one (Grillo et al, 2006) did not mention about that. However, one study (Shaw et al., 2008) failed to minimize the sampling bias since there was statistically significant
difference between intervention and control groups at the entry reported (p<0.0001).

2.3.4 Blinding process

It was not possible to blind the participants and staffs in the educational intervention group for all studies. The majority of studies (n=6) did not mention about the blinding process. Only two of them (Staab et al., 2006; Schuttelaar et al., 2010) stated clearly that the investigators who were responsible for assessing outcome measures were blinded in order to minimize the bias. Since blinding was not possible, Hawthorne effect would be a potential problem. The outcome measures would be biased according to the subjects’ awareness that they were participants under study (Polit & Beck, 2012). This was one of the limitations among studies involved educational interventions.

2.3.5 Missing data

The dropout rate was mentioned in all studies (n=8), ranged from 5% to 30%. Majority of studies (n=6) showed the reasons of dropped out (for example, change of address, unable to contact, lost interest or well controlled of AD) and stated that there were no significant differences between adherers and dropouts. It was important to be aware that statistical power of study would be reduced due to a high dropout rate.
2.3.6 Data collection

The data collection was similar for both intervention group and control group in all studies (n=8). All participants’ outcome measures were assessed in the same way by same assessment tools. No performance bias was mentioned in studies.

2.3.7 Power calculation

Half of studies (n=4) had enough participants to achieve statistical power of 80%. However, two studies could not recruit adequate participants to maintain the statistical power since some participants dropped out during the study period (Grillo et al., 2006; Shaw et al., 2008). The remaining two even did not mention about the statistical power and sample size calculation in their papers (Weber et al., 2008; Kupfer et al., 2010).

2.3.8 Main results and precision of results

Majority of studies (n=7) showed clear statistical analysis for the outcome measures. They were in terms of p-value, mean and standard deviation in measuring the outcomes. All studies (n=8) set the level of significance at 0.05 level. The results were presented by tables, charts and/or figures to show the comparison between groups. Nearly all the outcome measures of studies (n=7) related to skin severity (SCORAD), quality of life (IDQOL/ CDLQI) and/or dermatitis family impact (DFI). It was important to note that one study (Shaw et
al., 2008) did not randomize equally in one of the outcome measures (CDLQI). The precision of results of study would be affected.

2.3.9 Application to local setting

The target population of local setting in this study is children with atopic dermatitis. It was same as the study population in all selected studies (n=8). Almost all interventions (n=7) were directed at secondary care patients in dermatological outpatient clinic which was similar to my proposed local setting. The remaining study (Chinn et al., 2002) was directed at primary care patients. Although there were different delivery models of educational interventions, the results could be applied to local setting and population.

2.3.10 Summary of quality appraisal

According to the CASP appraisal tool for RCTs, eight selected studies got low to high quality with the percentage of criteria fulfilled ranged from 45% to 85%. For the level of evidence of each study, two were rated 1- (Grillo et al., 2006; Shaw et al., 2008), three were rated 1+ (Chinn et al., 2002; Weber et al., 2008; Kupfer et al., 2010) and remaining three were rated 1++ (Staab et al., 2006; Moore et al., 2009; Schuttelaar et al., 2010). Appendix F presented the summary of quality appraisal of selected studies.

2.4 Summary and Synthesis of Findings
All selected studies were RCTs which could provide the highest level of evidence of the studied educational interventions ranged from 1- to 1++. 

2.4.1 Patient characteristics

All eight selected studies involved total 1953 children with atopic dermatitis as studied population. The sample size ranged from 36 to 992 for each study. The age range of participants was from 0–18 years with mean age from 1.6 to 14.9 years. A cross sectional study showed that the mean age of AD children in Hong Kong was 8.35 years with youngest 0.92 years to the oldest 19 years (Luk, 1998). It was very similar to the population in selected studies. In addition, almost all studies (n=7) carried out in outpatient clinics. The proposed intervention should be able to apply in local setting and population with similar characteristics. Both new and old cases of AD children with mild to severe degree were also recruited as subjects in most of studies. No other skin problems were mentioned in these studies. 6 of them stated that there were no statistical significant differences between characteristics of patients in intervention and control groups. Moreover, their parents and caregivers most likely accompanied participants during the intervention. In my proposed study, parents and caregivers should be classified as one unit with each individual subject. Educational intervention should not only target on patients but also their parents and caregivers.
2.4.2 Intervention

The duration of follow up was between 90 days to 1 year. It was reasonable since the improvement in skin severity take time to be effective. Most of studies (n=6) involved only one center for data collection but two studies (Staab et al., 2006; Kupfer et al., 2010) involved seven centers. As a result, the sample size of the latter studies is much larger than the former ones. Majority of studies (n=6) focused on children in the interventions but two focused on both children and adults (Staab et al., 2006; Kupfer et al., 2010). The delivery mode of interventions composed of a 30-min single nurse consultation session (Chinn et al., 2002), 2-hr nurse education (Grillo et al., 2006), 6 sessions of 2-hr multidiscipline education (Staab et al., 2006; Kupfer et al., 2010), a 15-min education session by AD educator (Shaw et al., 2008), 90-min support groups (Weber et al., 2008) and 90-min nurse-led eczema workshop (Moore et al., 2009). Although the mode and duration of educational interventions varied from each study, the components of each intervention were similar. They consisted of some key elements such as introduction of disease nature and triggering factors, provision of written information, demonstration of topical medication application, basic skin care and coping skills towards AD. In fact, better knowing of all these components was important to well control the disease. It was hard to get the above information
during a normal, limited-time medical consultation.

2.4.3 Comparison

All studies were performed in randomized controlled trials. Control groups were arranged to compare the treatment effect with the intervention groups. Among eight selected studies, the participants in control groups would receive normal medical consultation as usual. The medical consultation included examination, investigation and treatment prescribed by dermatologist in the same setting. The duration of consultation was not standardized but varied from each dermatologist (n=5). No specific education was arranged to participants during the study. Two studies (Grillo et al., 2006; Kupfer et al., 2010) mentioned that participants in control groups had opportunity to receive educational intervention after the study period.

This is similar to the current practice of proposed local setting in Hong Kong. AD patients were arranged to have an appointment date to seek medical consultation. They would sit and wait in the waiting hall before consultation. No specific or well organized education program would be provided.

2.4.4 Outcome measures

All selected studies focused on the intervention effect to skin severity and/or quality of life of participants. There were 5 studies assessed the skin severity by
means of SCORing of Atopic Dermatitis (SCORAD) (Grillo et al., 2006; Staab et al., 2006; Shaw et al., 2008; Moore et al., 2009; Schuttelaar et al., 2010). SCORAD is one of the golden standards to measure the severity of atopic dermatitis. According to Oranje (2011), SCORAD is the best validated scoring system in assessing atopic dermatitis. It is easy and convenient for dermatologists and nurses to assess patients with AD.

Five studies measured patient’s quality of life in different age groups as study outcomes (Chinn et al., 2002; Grillo et al., 2006; Shaw et al., 2008; Weber et al., 2008; Schuttelaar et al., 2010). For participants aged 4 years or below, Infant Dermatitis Quality of Life (IDQOL) Questionnaire was used as measuring tool. For those aged 4 to 18 years, Children’s Dermatology Life Quality Index (CDLQI) Questionnaire was used. Both of IDQOL and CDLQI were with high validity and reliability to measure quality of life among children with atopic dermatitis (Lewis-Jones & Finlay, 1995; Lewis-Jones, Finlay & Dykes, 2001).

Some studies assessed quality of life in terms of Dermatitis Family Impact (DFI) (n=4) (Chinn et al., 2002; Grillo et al., 2006; Weber et al., 2008; Schuttelaar et al., 2010) and itching coping behavior (n=3) (Staab et al., 2006; Weber et al., 2008; Kupfer et al., 2010).

It was important to point out that one study investigated the patient satisfaction
according to the intervention (Schuttelaar et al., 2010) by means of Client Satisfaction Questionnaire-8 (CSQ-8).

**2.4.5 Effect size**

Three selected studies supported the educational interventions in significant reduction of skin severity by SCORAD \((p<0.005 \text{ to } p<0.0001)\) (Grillo et al., 2006; Staab et al., 2006; Moore et al., 2009) while others failed (Shaw et al., 2008; Schuttelaar et al., 2010).

Two studies reported statistically significant improvement in CDLQI as a result of patient education \((p=0.004 \text{ & } p<0.01)\) (Grillo et al., 2006; Weber et al., 2008). However, all studies \((n=4)\) failed to show significant improvement in quality of life of children with AD by means of IDQOL (Chinn et al., 2002; Grillo et al., 2006; Shaw et al., 2008; Schuttelaar et al., 2010).

The selected studies \((n=4)\) also failed to report any significant improvement in DFI (Chinn et al., 2002; Grillo et al., 2006; Weber et al., 2008; Schuttelaar et al., 2010). It seemed that educational interventions were not effective and helpful in reducing family impact according to the disease.

As for the patient satisfaction, Schuttelaar et al. (2010) supported the intervention in achieving higher satisfaction rate \((p<0.02)\) towards service provided in comparison to conventional treatment.
2.5 Implication

The above results, more or less, indicated that the educational interventions could help in decreasing skin severity and improving quality of life for children with AD. Three studies, with level of evidence rated 1++ (n=2) and 1- (n=1), showed significant improvement in reducing skin severity. Two studies rated from 1- to 1+ supported interventions in achieving better quality of life of children aged 4 years or above. Patient education appeared to be beneficial in the treatment outcome of the target population. It is expected that less consultations made and reduced medicine consumption by patients, according to their better skin condition, would reduce the financial burden of healthcare system.

It was also believed that a single and short intervention was not sufficient to change patients’ behavior to achieve significant clinical outcomes (Chinn et al., 2002; Shaw et al., 2008). Multiple and intensive intervention sessions should be taken in consideration.

In all, nurse was playing an important role in educational interventions. In Hong Kong, dermatological outpatient clinic is the unique service providing routine skin care and treatment in the public sector. It is important to set up the evidence-based guideline of educational interventions in the local setting in order to improve the patients’ clinical outcomes.
Chapter 3

Innovation

According to the literature review of the selected studies, patient education sounds good and effective for improving the clinical outcomes of the target population. In order to obtain the benefit from those evidences to the local population, it is essential to translate the evidences to an innovation in the local practice. After performing the critical appraisal of the selected studies in the previous chapter, an innovation of the educational intervention in the local setting is being generated.

3.1 Name of the Educational Program

Nursing consultation session for the children with atopic dermatitis

3.2 Target Audience

Patients aged from 4 to 16 years who are attending to the dermatological outpatient clinic with diagnosis of AD with all degree of skin severity. Caregivers are encouraged to participate together. All are recruited by convenience sampling.

3.3 Target Setting

One local public dermatological outpatient clinic will be selected as the pilot venue.

3.4 Target Staff

Three medical officers (MOs) and nine registered nurses (RNs) working in the
target public dermatological outpatient clinic

3.5 Length of Follow Up

The length of follow up in this program will last for one year. According to the previous attendance record, there should be at least 15 AD children seek for consultation in each month. Therefore, there should be at least 180 cases being recruited and evaluated within a year.

3.6 Patient Education Tools

AD pamphlets and leaflets will be given to patients directly in the nursing consultation. The detailed information about disease nature, treatment regimen and health advice in daily activity will be explained. A web-based departmental video show “Wisederm” will be introduced to patients. This will cover the practical demonstration in application of topical medication such as the quantity of medication, fingertip application, teaspoon method and skills for mixing of prescribed treatment. Some frequently asked questions (FAQs) will also be included in this video.

3.7 Activities Schedule

Before onset of the program, nurses will have specific training. Two half-day training workshops will be arranged to each nurse for familiarizing the program. It is expected that all nurses are capable of conducting the program individually
after the 4 weeks training period.

The target patients will be recruited in the consultation room by the inclusion criteria of the program. MOs will obtain verbal consent from patients or caregivers. Nurses then invite patients and their caregivers to an interview room to start the program. First nursing consultation session will last for 30 minutes. Educational materials will distribute to patients. Nurses will educate patients about the proper skin care and provide demonstration in application of topical medication. Re-demonstration by patients or caregivers is not necessary. Nurses will also clarify the misunderstandings towards AD such as steroid phobia, dietary intervention and usage of Traditional Chinese Medicine (TCM). Through the interview, nurses could provide a personalized management plan to patients. Baseline assessment includes the SCORAD Index, CDLQI Questionnaire and CSQ-8 will be done at the beginning of the interview.

Four weeks later, a second interview will be arranged. This is a re-educational nursing consultation session which will last for 15 minutes. The content is similar to the first interview. Patients and caregivers have to re-demonstrate the proper skin care skills to nurses and reflect their difficulties in AD management in their daily life. Nurses then provide feedback and modify the personalized management plan with patients.
A final session will be arranged at 12 weeks after the first interview. This is a 15-min session for reinforcing and evaluating about proper AD management. Nurses will encourage patients about frequently usage of emollient as basic skin care. Re-demonstration of skin care skills by patients or caregivers again. Patients are suggested to seek consultation from family doctors or general outpatient clinic (GOPC) if the skin condition is getting stable. Proper AD management will be revised and reminded at the end of interview.

Similar to the first session, same kinds of assessment are necessary to be performed at the end of 4-week and 12-week follow up.

During the program, the routine medical consultation will be arranged as scheduled according to MOs’ own clinical decision. No additional medical consultation will be given on 4-week and 12-week follow up. Patients’ benefit will not be affected.

3.8 Conclusion

The innovation is proposed to enhance the quality of service provided and patients’ clinical outcome. If the pilot program is running smooth, all remaining public dermatological outpatient clinics will carry out the program as the routine practice.
Chapter 4
Implementation Potential

In chapter 2, eight selected studies have shown the effectiveness of educational intervention for children with AD in improving skin condition and quality of life in the Western countries. However, it is still doubt that whether the innovation can be generalized in the local practice successfully. Thus, the implementation potential of the innovation will be examined according to the following aspects: target audience and setting, transferability, feasibility and cost-benefit ratio.

4.1 Target Audience

The proposed innovation targets on children who are aged 4 to 16 years, suffering from any degree of AD. They could be the new cases or old cases in a dermatological outpatient clinic. They have to able to communicate well in Cantonese or English. Children with other kinds of skin diseases or receiving systemic treatment will be excluded.

4.2 Target Setting

The innovation will be implemented in a dermatological outpatient clinic which is under the Social Hygiene Service of Department of Health. The target setting is providing examination, investigation, treatment and health promotion related to all kinds of skin diseases including AD. Three MOs and nine RNs are responsible
to run the clinic daily. There are approximately 250 attendances per day and about one fourth of them were treated as AD. In the current practice, patients attend to the clinic by appointment. They are arranged to seek for medical consultation after registration. MOs will prescribe appropriate medication and give health advice to patients during consultation. Patients then make the next appointment at registration office before leave. No specific education will be provided.

In order to maximize the clinical outcome to patients, all MOs and RNs in the clinic are invited to participate in this innovation.

4.3 Transferability of the Findings

It is important to generalize and transfer the findings from selected studies in the local clinical environment. The following areas will be discussed.

4.3.1 Fitness of the setting

The majority of review studies were carried out in the outpatient clinic which is same as the target local setting. The innovation of educational intervention will be conducted by nurses. If patients agree to participate, nurse will arrange a private room to interview with patients and their caregivers. This is similar to the selected studies that educational program should not only target on patients but also their caregivers.

4.3.2 Characteristics of target population
The target population is AD children who are attending to the dermatological outpatient clinic. According to the identified evidence, the age range and clinical problems of target population are similar. Although there are cultural and geographical differences, the AD children should have similar experiences based on their severity level of skin condition. Therefore, both the target setting and population are fit to translate the findings to the local practice.

**4.3.3 Philosophy of care**

It is mentioned in Chapter 1 that the educational intervention is helpful in improving patients’ quality of life and skin condition together with a better quality of care provided by nurses. The philosophy of care of the innovation is similar to that of Department of Health which is to provide quality client-oriented service, and to safeguard community health through promotive, preventive, curative and rehabilitative services (The Hong Kong Department of Health, 2007). The innovation should create no conflicts against the current practice.

**4.3.4 Time frame**

Interview sessions will be arranged in the following time frame: first visit, 4-week and 12-week follow up. The proposed innovation could be implemented and evaluated in one year. This is similar to the length of follow up ranged from 3 to 12 months of the selected evidence.
4.4 Feasibility

There are several supporting factors that make the innovation more feasible to be implemented in the local practice.

4.4.1 Frontline user support

Nurses have the freedom to carry out the innovation to suitable targets after implementation. They can terminate the innovation anytime if the condition is not applicable, such as the clients are not physically fit. Since health education is a part of the clinical mission, the implementation of innovation will not interfere inordinately with current functions. Nurses are going to have an interview with patients after their consultation without affecting the normal operation. In addition, nurses are well-trained and knowledgeable in teaching proper skin management. They will not have too much difficulty in the process of implementation. It is expected that a new program would elicit extra workload and pressure to the frontline staff. Thus, it is essential to explain that the workload and burden of patient care in the long term should be reduced. Also, adequate time for nurses to learn and practice the innovation is favorable to reduce the resistance.

4.4.2 Administrative support

It is also important to communicate well with the MOs and the Chief of Service (COS) about the innovation in order to gain their support. The organizational
climate is conductive to research utilization. MOs always have regular biweekly meeting in research findings discussion and keep their effort in publishing journals. For example, a dermatologist suggested colleagues should increase the awareness in assessment of quality of life of AD patients during consultations recently (Lam, 2010). This is beneficial to the implementation of this innovation.

The organizational resistance will not be high since the innovation is client-oriented with low cost and risk. In fact, over 25% of patients were suffered from AD in the past few years (The Hong Kong Department of Health, 2010). It is welcome that an innovation can enhance patients’ clinical outcome and organizational quality of care.

The risk of friction from patients and nurses is low. Patients participate in the program on voluntary basis. Nurses are responsible to give a talk with patients with existing materials. It is believed that the innovation create no friction between each party.

**4.4.3 Nurse training and equipment**

In order to standardize the innovation provided, nurse training to the innovation is necessary. The aim of training is encouraging nurses provide feedback related to the innovation and giving a simple and clear guideline for nurses to follow. The content of training will include the usage of patient assessment tool, update
information of skin management, proper counseling and demonstration skills, and a checklist of key information to patients through the innovation. The training workshop will be arranged during official hour, nurses are no need to use their leisure time to participate. Continuous Nursing Education (CNE) points will be earned by nurses after completion of training to increase motivation. Nurses are expected to be a competent staff in running the innovation smoothly.

As for the equipment and facilities, not much extra preparation is necessary. Since the health pamphlets and leaflets are available in the target clinic, nurses can use them as innovation materials. Besides, an interview room with comfortable environment is currently used in the daily practice.

4.4.4 Measuring tools for evaluation

According to the literature review, two important measuring tools include CDLQI questionnaire and SCORAD index will be used. They are one of the gold standards used in measuring quality of life and skin severity respectively (Oranje, 2011; Lewis-Jones & Finlay, 1995). CSQ-8 is also used to assess patient satisfaction level as one of the outcome measures (Schuttelaar et al., 2010).

4.5 Cost-benefit Ratio of Innovation

4.5.1 Patients’ potential risks and benefits

The potential risks towards patients who participate in the innovation are rare.
Educational intervention is performing in a safe environment. Patients can stop the innovation and leave anytime if they want. However, it is still important to note that patients may spend extra time in the additional innovation.

For the benefits resulted from the innovation, patients could acquire proper skin management skills in order to well control their disease. Then they may have longer period of follow up and reduce the consumption of topical medication. The burden on their daily life will be reduced.

4.5.2 Potential risks and benefits towards staff and clinic

The implementation of innovation will create potential risks to staff and clinic. Nurses will encounter extra workload in educating the target patients. Prolonged waiting time for other treatments performed by nurses may produce pressure to the clinic. Better allocation of nurse duties during implementation would be helpful to minimize the risks.

In the opposite view, some potential benefits will be gained by staff and clinic. According to the Department of Health Annual Report 2009/2010, there were totally 187,343 attendances at the dermatological clinics in 2009 (The Hong Kong Department of Health, 2010). There were 4,072 out of 16,879 new cases diagnosed as AD. At least one tenth of those new cases were children and youngster. There will be a large number of patients being beneficial to the
innovation. When the target AD patients have longer follow up, the workload in long term should be reduced. The financial burden in providing the additional consultation and treatment to patients will be saved.

4.5.3 Potential material costs and benefits of innovation

Since the essential materials for the innovation such as pamphlets, audio-visual aids and interview room are currently available in the target clinic, the potential material costs are minimal. Copy machines are used already for printing of additional information sheets to patients. Oppositely, other costs can be saved if the innovation implement successfully. The additional consultation and manpower in handling request of urgent appointment will be reduced according to better skin condition of target patients.

4.5.4 Potential non-material costs and benefits of innovation

Additional time for nursing education in the innovation is the chief non-material cost. Staff morale would be lowered due to this new and extra task to be implemented. Despite of that, MOs and RNs may feel satisfied after helping the target patients through educational intervention. The job achievement will be greater according to the innovation provided.

In conclusion, the innovation should be successfully implemented since it is transferable, feasible and affordable in the local setting.
Chapter 5

Developing an Evidence-Based Practice Guideline

According to the implementation potential discussed in the last chapter, an evidence-based guideline will be developed. The aim and objectives of the guideline are clearly listed. Recommendations with relevant supporting evidence are graded accordingly.

5.1 Background

Atopic dermatitis is a great public health problem which is affecting up to one fifth of children. The traditional AD management mainly concerned about the treatment. Many Western studies already showed that educational intervention towards AD children and their caregivers could obtain a significant improvement in patients’ quality of life and skin condition.

In Hong Kong, there is no specific educational program provided to AD patients currently. After assessing the transferability, feasibility and cost-effectiveness of the Western findings in translating the innovation into local setting, an evidence-based practice guideline is developed.

According to the Scottish Intercollegiate Guidelines Network (SIGN) (Harbour, 2008), the evidence level of each selected study and the grade of each recommendation is determined (see Appendix C). Twelve recommendations were
5.2 Title of the Evidence-Based Practice Guideline

The evidence-based guideline of nursing consultation session for children with atopic dermatitis

5.3 Target Population

Children attending dermatological outpatient clinic with the following inclusion criteria:

- Aged 4 to 16 years
- Suffered from atopic dermatitis
- No other types of skin diseases
- Able to read and listen Cantonese or English

Parents or caregivers of those children are welcome.

5.4 Target Users of the Guideline

The target users are nurses and MOs working in the dermatological outpatient clinic.

5.5 Aim of the Guideline

To establish the nursing consultation session in dermatological outpatient clinic and provide proper skin care skills to AD children and their caregivers in order to improve their clinical outcome
5.6 Objectives of the Guideline

1. To standardize the educational interventions provided to AD children in an evidence-based approach

2. To educate AD children and caregivers about proper skin management skills

3. To reduce the severity of skin condition of AD children

4. To improve the quality of life of AD children

5. To increase the patient satisfaction towards service provided

5.7 Practice Recommendations

Recommendation 1 (A)

**Nursing consultation session should be held in a private interview room.**

**Evidence:**

Patients could receive the interview with their parents or caregivers together. A comfortable private room is a good location to encourage more participation without affecting by surrounding noise. Nurses could also focus on each individual case in order to provide personal and optimum suggestions to the patients. (Staab et al., 2006; Moore et al., 2009; Schuttelaar et al., 2010; Kupfer et al., 2010; Shaw et al., 2008; 1++, 1++, 1++, 1+, 1-)

Recommendation 2 (B)

**Multiple sessions rather a single session should be arranged in educate AD**
Evidence:

There are different kinds of key elements to be taught to patients. A single session is not sufficient to change the behaviour and management skills. In addition, it is necessary to perform the post-assessment in the follow up sessions in order to measure any improvement of clinical outcome through the program. Thus, 4-week and 12-week follow up will be arranged. (Chinn et al., 2002; Grillo et al., 2006; Shaw et al., 2008; 1+, 1-, 1-)

**Recommendation 3 (B)**

**The practice should be provided by well-trained dermatological nurses.**

Evidence:

In the clinical setting, nurses are always acting a role of health educator. Patients are more willing to talk about their needs and concerns through a nurse interview rather than medical consultation. Nurses could show the empathy to patients. On the other hand, training is important to standardize the practice provided. (Chinn et al., 2002; Shaw et al., 2008; 1+, 1-)

**Recommendation 4 (A)**

**Skin condition should be assessed before and after the practice by means of SCORAD index.**
Evidence:

It is important to examine patients’ skin condition before the practice as a baseline measurement. Similarly, this should be recorded in the follow up sessions for comparison. SCORAD index is a gold standard to assess patients’ skin severity of atopic dermatitis. (Staab et al., 2006; Moore et al., 2009; Schuttelaar et al., 2010; Grillo et al., 2006; Shaw et al., 2008; 1++, 1++, 1++, 1-, 1-)

**Recommendation 5 (A)**

CDLQI is recommended to be used in assessing patients’ quality of life before and after the practice.

Evidence:

It is necessary to measure the quality of life among patients by an appropriate tool. CDLQI is well validated and tested to measure children’s quality of life according to their skin diseases. Nurses should clear know how to make use of this assessment tool. (Schuttelaar et al., 2010; Chinn et al., 2002; Weber et al., 2008; Grillo et al., 2006; Shaw et al., 2008; 1++, 1+, 1+, 1-, 1-)

**Recommendation 6 (A)**

Practice should include at least the disease nature, treatment regimen and health advice for daily care.

Evidence:
According to the recent studies, many patients know a little or even nothing about AD although they have received consultation and treatment for a long period of time. Nurses should clearly explain the disease nature, treatment plan and health advice for daily care to attain the best clinical outcome. (Schuttelaar et al., 2010; Chinn et al., 2002; Weber et al., 2008; Grillo et al., 2006; 1++, 1+, 1+, 1-)

**Recommendation 7(A)**

**Written pamphlets and leaflets should be given to patients for self learning.**

Evidence:

Pamphlets, leaflets and useful webpage address are useful materials for patients learn more by themselves. In addition, the materials could remind patients about the management skills in their daily activity. (Moore et al., 2009; Schuttelaar et al., 2010; Chinn et al., 2002; 1++, 1++, 1+)

**Recommendation 8(A)**

**Patients should be instructed to apply emollient and topical medication by demonstration.**

Evidence:

Many studies showed that patients misuse the topical medication especially topical steroid in treating their diseases. A practical and detailed demonstration by nurses to educate patients is beneficial. Also, patients or caregivers should be
asked to re-demonstrate the suggested practice to nurses at their follow up. 

(Moore et al., 2009; Chinn et al., 2002; Weber et al., 2008; Grillo et al., 2006; 1++, 1+, 1+, 1-)

**Recommendation 9(A)**

Reassure patients proper usage of topical steroid is safe. Minimize the influence of steroid phobia.

Evidence:

Patients would stop the topical steroid by themselves since they might worry about the side effects of steroid. This would alter the treatment effect. Nurses should explain clearly the safe usage of steroid as an essential treatment. (Moore et al., 2009; 1++)

**Recommendation 10(A)**

Nurses should understand patients’ concern and provide positive response to patients. A personalized management plan is preferable for each single patient.

Evidence:

Patients may encounter difficulties in managing their skin problem in their daily life. Apart from giving general information and advice, it is highly recommended that tailor-make a personalized management plan to each patient after realized
patient’s concern individually. (Moore et al., 2009; Schuttelaar et al., 2010; Shaw et al., 2008; 1++, 1++, 1-)

**Recommendation 11(A)**

**Nurses should help patients arrange follow up interview before leave.**

**Evidence:**

All the selected studies provided a follow up interview to evaluate the effectiveness of the program. Patients should be reminded follow up on time for further assessment. (Staab et al., 2006; Moore et al., 2009; Schuttelaar et al., 2010; Chinn et al., 2002; Weber et al., 2008; Kupfer et al., 2010; Grillo et al., 2006; Shaw et al., 2008; 1++, 1++, 1++, 1+, 1+, 1+, 1-, 1-)

**Recommendation 12(A)**

**Patient satisfaction should be assessed at the end of the program.**

**Evidence:**

The patient satisfaction towards the program is an indicator for improvement. This could allow nurses modify the program and guideline according to patients’ feedback. (Schuttelaar et al., 2010; Shaw et al., 2008; 1++, 1-)
Chapter 6
Implementation Plan

After affirming the potential success of the program, an evidence-based guideline is developed, entitled “The evidence-based guideline of nursing consultation session for children with atopic dermatitis” in the previous chapter. Now, this educational intervention should be planned to implement at the current practice. In order to establish the innovation smoothly and successfully, a well-designed implementation plan is very crucial. The implementation plan consists of a clear communication plan with all stakeholders and the pilot study plan to evaluate the effectiveness of the program will be discussed in this chapter.

6.1 Communication Plan

A good communication plan is essential. Effective and efficient communication between different stakeholders could be beneficial in collecting opinions, modifying the innovation and eliminating the obstacles throughout the implementation process. A coordinator, who is the author of this study, will be responsible in promoting the proposed innovation. It is important to gain support from the stakeholders by demonstrating and illustrating the disadvantages of the current practice, the rationale of implementing the proposed intervention and the potential benefits to all target patients, healthcare providers and the healthcare
system.

6.1.1 Identifying the stakeholders

Before discussing the communication plan, the potential stakeholders in this innovation should be identified. There are three major groups of the stakeholders. They are 1) the administrators such as the Chief of Service (COS), two Senior Nursing Officers (SNOs) and a Nursing Officer (NO) together with the frontline staffs such as 2) three Medical Officers (MOs) and 3) nine Registered Nurses (RNs) working in the pilot clinic.

The administrators of the service are the key stakeholders. They are responsible for all of the service and clinic policies. All proposed interventions should obtain their approval and support before implementation. They could arrange the essential resources, budget and manpower to support the innovation. COS is also the key person to communicate with MOs for their feedback of the innovation.

The MOs who work in the clinic are important stakeholders of the innovation. MOs have the first chance to communicate with patients about their skin condition during consultation. They are responsible to select and refer the appropriate target patients to participate in the proposed innovation. In addition, MOs could provide professional advice related to skin care to RNs who will carry out the innovation with patients. Thus, MOs are valuable partners which should be invited to support
the new guideline.

Frontline RNs are definitely the stakeholders of the innovation. They are the main conductors of the program. Since the educational intervention is mainly carried out by RNs, their opinions towards the innovation are very important. It is necessary to explain the reasons for change in the current practice to the frontline RNs so that they could support and participate in the innovation. They are responsible to assess patients’ skin condition and provide personalized skin management plan to each individual patient in the interview. Relevant training will be arranged to them in order to standardize the innovation provided before the implementation.

6.1.2 The process of communication plan

The process of communication with all stakeholders should be planned carefully. The communication sequence and the time frame were presented in Appendix G.

First of all, it is necessary to gather the opinion from nine frontline RNs who will contribute most effort in the innovation. Informal sharing and discussion will be held among them during break and meal time. This could help in understanding their acceptance and capacity to promote the innovation. It is the best time to explain reasons for the change and gain their support by means of minimizing their stress and doubt towards the new intervention. Their suggestions and
potential difficulties in promoting the innovation should be summarized in order to present to the administrators.

The administrators then would be approached to obtain their support and approval for the implementation of new intervention. Administrators such as SNOs and NO would first be reached by Email for describing the current situation and disadvantages of current practice. Introduction of the new intervention and advantages for the change will be briefly explained. The detailed innovation proposal with evidence from the literature and the examination of implementation potential in local setting will be attached. It will also include the summary of frontline RNs’ feedback about the new intervention for administrators’ consideration. At the end of mail, they are invited to attend a 30-minute formal presentation held by the coordinator in providing detailed explanation of the program and answering any queries directly. Through the presentation, it should highlight that there is currently no such intervention to the target patients. The feasibility and cost-effectiveness of innovation should be clearly mentioned. It is necessary to ask for resources in arrangement of relevant training for frontline RNs before implementation.

After obtaining the approval from SNOs and NO, the COS should be reached for his final decision. COS is the chief administrator and the decision maker of the
service. Email would be sent to COS via SNOs for introducing the new intervention running by RNs and the benefits to the service and patients. A 20-minute presentation will be conducted to answer queries from all administrators again if COS has showed his interest to the innovation. The most important issue is emphasizing the innovation would not affect the normal operation of service and alter the medical treatment prescribed by MOs. The coordinator will persuade administrators support the innovation at the end of presentation.

Once all administrators supported the innovation, it could approach the frontline MOs during the regular biweekly service meeting. It is necessary to get their cooperation and support in implementing the innovation. It should emphasize that the innovation would not increase their workload and influence the prescribed treatment to patients. The innovation is suggested to provide additional health education to patients and caregivers parallel to the current treatment. MOs help in recruiting patients to the intervention during consultation. A memo signed by COS should be circulated to MOs reminding them the implementation of the new intervention.

Finally, it should communicate with the frontline RNs in the clinic. NO who is responsible for the pilot clinic operation could help to explain the implementation
process during internal staff meeting. It is the time to provide the detailed intervention guideline to RNs. Training program should be arranged to refresh and standardize RNs’ dermatological knowledge and nursing care for AD patients. The new guideline will be printed out and kept in clinic for reference. RNs should refer and ask questions if they are in doubt about the intervention.

6.1.3 Initiating, guiding and sustaining the change

A Committee Group (CG) which is responsible for monitoring the implementation process and reporting the implementation progress to administrators should be formed. NO in-charge, two senior RNs and the coordinator will be assigned as the committee members to initiate the proposed change. One MO working in the pilot clinic will be invited as an adviser of the group in providing suggestion from medical view.

CG has to keep the progress on right track within the time frame. In the program, the phase of gaining approval from administrators and other stakeholders will last for six weeks. There will be about 4 weeks for preparation and training before a 3-month pilot study to be started afterwards. After completing the evaluation of pilot study, the full scale implementation period in the pilot clinic will last for a year. CG should guide the changes and remove any obstacles throughout the implementation process.
CG is responsible for preparing all equipments, educational materials, relevant documents and measuring tools for evaluation used in the intervention. It should make sure all resources always being available during the program. CG is also responsible for arrangement of training sessions to RNs and preparation of all training materials related to the intervention. The group advisor will provide a half-day sharing session to CG in reviewing basic skin anatomy, triggering factors and current treatments to atopic dermatitis. CG will then arrange two half-day workshops held within official hours to each RN for familiarizing the proposed guideline with updated information of AD management. NO will be the trainer of all workshops. The phase of nurse training will last for 4 weeks.

A three-month pilot study will be conducted to examine the feasibility of guideline in a real local setting. CG has to collect the feedback and modify the plan after pilot study. The effectiveness of the proposed change will be evaluated by outcomes such as patients’ quality of life, feedback and acceptance from MOs and RNs, and comments from patients. The proposed intervention will last for a year in the pilot venue before implementation in all clinics. CG is in charge for initiating, guiding and sustaining the changes throughout the process.

6.2 Pilot Study Plan

After developing the communication plan, a pilot study plan should be discussed.
The pilot study is a trial run for a short period of time in the clinic before the full scale implementation of the innovation. It is important to provide opportunity in revealing the limitations and modifications of the proposed innovation.

6.2.1 Objectives

The main objectives of the pilot study are:

1) To determine the feasibility and cost effectiveness of the implementing educational intervention guideline

2) To examine the acceptance and feedback from the guideline users and patients

3) To identify any potential barriers and difficulties encountered by guideline users

4) To evaluate the proposed changes and make any necessary modifications during the pilot study in order to revise the guideline accordingly

5) To obtain information to calculate the sample size for full scale implementation

6.2.2 Recruitment of pilot study

The inclusion criteria of target population and setting should be as same as that mentioned in Chapter 4. A local public dermatological outpatient clinic will be selected as pilot venue. AD patients attending to the clinic who are aged from 4 to 16 years, able to communicate with Cantonese or English, not receiving systemic
treatment could be the target patients. The sample size of the pilot study is about 30 by using convenience sampling. Thus, each RN in pilot venue could interview at least 3 patients before actual implementation.

### 6.2.3 Time frame

The pilot study will last for three months. Before it starts, it is necessary to make sure that all participating nurses have completed the provided training program. The CG should well prepare all the patient education tools such as the pamphlets and leaflets, the assessment tools and evaluation forms in the first two weeks. The pilot study could be conducted in the next two months. As mentioned before, it is estimated at least 15 AD children seek for consultation in a month, thus about 30 patients could be recruited. All patients could complete the four week follow-up after the innovation in the third month (see Appendix G).

### 6.2.4 Method

The intervention provided in the pilot study should be consistent with the guideline used in the actual implementation. The method is mentioned in Chapter 3. The target patients will be invited to join the program through MOs during consultation. Only verbal consent will be obtained from patients or caregivers. Nurses will introduce the program in an interview room. Baseline assessment on SCORAD, CDLQI and CSQ-8 will be completed as the pre-test measurement.
Thirty-minute educational intervention covering disease nature, treatment regimen and personalized skin care skills will be conducted to patients and caregivers. Pamphlets and video show related to AD management will also be introduced. Demonstration and re-demonstration in application of topical medication will be discussed in the interview. Patients would receive additional 15-minute nursing consultation with similar content four weeks after the date of entry to intervention and complete the same sets of questionnaire at the end as post-test assessment.

6.2.5 Pilot review

There are four different aspects should be reviewed in the pilot study. They are the feasibility and cost-effectiveness of the proposed intervention, the acceptance of proposed guideline by the users, nurse competence in exercising the innovation, and the study measures.

Possible barriers and difficulties encountered during pilot study could be useful indicators to revise the guideline. Other factors such as manpower, resources or time management for the interview should be reviewed as reference in actual implementation. The feedback and acceptance of the MOs, nurses and patients will be assessed. This could help in modifying the implementation process and enhancing morale to the whole healthcare team. Since the nurse competence to communicate with patients about skin care is a key element of the innovation, it
should review whether nurses need any extra training or time in using the guideline confidently. It would be useful to assess the study measures like improvement in skin condition and quality of life by means of SCORAD and CDLQI questionnaire respectively. However, it is reminded that only 30 samples may not indicate a significant variation. In addition, it provides hints in estimation of the number of potential subjects and the duration in recruiting adequate sample size in full scale implementation.

After completion of pilot study analysis, the CG should communicate with administrators for suggested modification of the implementation by a written report. If the administrators approve and support to move forward, the full scale implementation in the pilot venue will begin.
Chapter 7

Evaluation Plan

The evaluation plan is developed to assess the program effectiveness regarding to translate the educational intervention to AD children from evidence to practice. This is important to show the value of guideline to convince all stakeholders support and sustain the new practice. In this chapter, the evaluation plan will be discussed in terms of outcomes to be achieved, evaluation designs, the nature and number of patients involved, when and how often to take measurements, how to analyse the collected data, and on what criteria for considering guideline as effective or not.

7.1 Outcomes to Be Achieved

It is mentioned in Chapter 5 that the objectives of the evidence-based guideline are to standardize the educational interventions, educate AD children and caregiver about proper skin management skills, to reduce their severity of skin condition, to improve their quality of life and to increase patient satisfaction towards service provided. Based on these objectives, the outcomes of the evaluation plan will be categorized into three aspects: 1) patient outcomes, 2) healthcare provider outcomes and 3) system outcomes.

7.1.1 Patient outcomes
The primary outcomes of patient outcomes are the improvement of skin condition and quality of life. The clinical benefits could be assessed by means of SCORAD index (see Appendix H) and CDLQI questionnaire (see Appendix I) before and after the intervention. They are the measuring tools with gold standards (Oranje, 2011; Lewis-Jones & Finlay, 1995). SCORAD index is calculated by a formula (A/5 + 7B/2 + C). The maximum score is 103. The higher value scored means poorer skin condition. The CDLQI questionnaire consists of 10 questions. Each question scores from 0 to 3 points. The greater value scored shows lower quality of life. As for the secondary outcome of patient outcomes, it is related to the patient satisfaction towards healthcare provided. It is measured by the self-administered CSQ-8 questionnaire which included 8 items with 4-point Likert scales (see Appendix J). The higher value scored indicates greater satisfaction (Schuttelaar et al., 2010).

7.1.2 Healthcare provider outcomes

Healthcare provider outcomes mainly target on the frontline MOs and RNs who are the guideline users. Their satisfaction towards the new guideline and the competence of using the guideline could affect the effectiveness of the program. It is essential to investigate their satisfaction and capacity on exercising the innovation. Regular audit could be done by CG to measure the competence in
providing the intervention. RNs should also be interviewed individually to share the experience, feedback and difficulties encountered in order to evaluate the level of satisfaction.

7.1.3 System outcomes

The system outcomes measure the cost-saving by innovation. The cost benefits through the innovation should be the reduced consumption of medications and frequency of consultation after implementation of intervention. The material costs could be easily measured and evaluated at the end of innovation period by comparison with recent record. In addition, the higher patient satisfaction assessed by CSQ-8 towards the service achieved means the service has provided better quality of care to patients. It would enhance the service image to the Public which is invaluable.

It is noted that both healthcare provider and system outcomes are the secondary outcomes of the evaluation.

7.2 Evaluation Design

Pre-test and Post-test design will be mainly used to evaluate the patient outcomes. The healthcare provider outcomes will be assessed by individual interview. System outcomes for measuring cost benefits are suitable to use pre-and-post test design.
7.3 Nature and Number of Patients Involved

The inclusion criteria has mentioned in the previous chapters. Patients should be aged from 4 to 16 years, able to communicate with Cantonese or English, suffering from atopic dermatitis without other skin diseases or receiving systemic treatment, and attending dermatological outpatient clinic for consultation. Recruitment is based on the MOs’ invitation during consultation. Verbal consent will be obtained from patients and caregivers. Convenience sampling was used.

The number of patients to be involved is calculated based on the primary outcomes by using Russ Lenth’s power and sample size calculator. One of the primary outcomes is patients’ quality of life in terms of CDLQI which could be analyzed by paired t-test. The test will be used for sample size calculation by setting power at 0.8 and alpha at 0.05. The minimum sample size for evaluation should be 144. Based on the reviewed studies, an attribution rate of up to average 10-15% is anticipated. The sample size required should be about 165 which within the range of selected studies. As mentioned before there are at least 15 AD children seek for consultation per month, the program will last for a year for sample recruitment.

7.4 When and How Often to Take Measurements

For short term evaluation, patients’ demographic data, CDLQI, SCORAD index
and CSQ-8 score will be measured at the beginning of the intervention. The measurement will be done again on 4-week and 12-week after the date of entry to intervention. The individual interview for frontline RNs will take about 15 to 30 minutes for each session. It will be held timely throughout the program. For long term evaluation, the consumption of medications and number of consultations made will be monitored monthly till the end of program.

7.5 Data Analysis

Different data analysis methods are used to measure the outcomes. All quantitative data will mainly be analyzed by the Statistical Package for The Social Sciences (SPSS) version 17. For patient outcomes, descriptive statistics such as mean, standard deviations (SD) and frequency are used to describe demographic data, baseline assessment including SCORAD index and CDLQI. A two-tailed paired t-test can be used to measure the change in pre-and-post test value of CDLQI, SCORAD and CSQ-8 score. The result is used to determine if the educational intervention significantly improve the quality of life and skin condition parallel to the medical treatment. The qualitative data obtained from the individual interview could be summarized and analyzed by content analysis.

7.6 Basis for an Effective Intervention

The effectiveness of the intervention is determined by the defined outcomes. The
intervention should be considered as effective if the primary outcomes can be achieved at the end. That means if patients have improvement in skin condition and quality of life significantly after the educational intervention, the proposed innovation is successful.

For the other outcomes, they can be treated as supportive evidences to enhance the effectiveness of the intervention. According to the healthcare provider outcomes, nurses’ satisfaction and personal feelings towards the innovation will be recorded and analyzed by qualitative analysis. The intervention is regarded as effective if positive feedback is documented in majority.

The service is expected to decrease the expenditure in medication consumption and decreased number of consultations made if the intervention is effective. The administrators could evaluate the attendance rate and the budget contributed to medication consumption monthly. With more cost benefits obtained, the innovation will be considered as effective. However, it is reminded that there are some other factors affects these variables. Limitations would be encountered in evaluation of cost benefits.
Chapter 8

Conclusion

Although there is a great improvement in technology and medicine science in the past decades, atopic dermatitis is still a major public health problem globally affecting numerous children and their caregivers. Researches have shown that the disease not only affecting the physical health, patients’ quality of life has already influenced seriously. Some studies suggest educational intervention is effective to restore the altered quality of life and skin condition. However, there is no specific guideline or intervention for those AD patients currently in the local setting.

In order to establish the innovation in the local practice, literature review is conducted and eight selected studies are reviewed by means of critical appraisal. By assessing the implementation potential of innovation, it is proved that the innovation is transferable, feasible and affordable for the population in the local setting. An evidence-based guideline is developed after consolidated all the best evidence-based findings.

After communicating with all identified stakeholders and obtaining their support and approval, training will be arranged to frontline guideline users. Then pilot study can be carried out in collecting substantial information on the feasibility and cost effectiveness of proposed intervention in real situation. The Committee
Group is formed to guide and sustain the changes. At last, with revision and modification of innovation after pilot study, an evaluation plan is developed to evaluate the effectiveness of the intervention.

In this study, the evidence-based guideline is designed to improve the quality of life and reduce the severity of skin condition of AD children. It is recommended to establish in all dermatological clinics as usual practice in order to yield more benefits to target patients and the service itself.


**Appendix A - Searching Strategies and Results**

**Databases:**
- PubMed (earliest to July, 2012) searched on 21 July 2012
- Cochrane Library (earliest to July, 2012) searched on 25 July 2012

**Searching Keywords**

1. atopic dermatitis
2. atopic eczema
3. dermatitis
4. eczema
5. child
6. childhood
7. patient education
8. education
9. eczema workshop
10. dermatitis workshop
11. workshop
12. quality of life
13. skin severity
14. SCORAD
15. 1 or 2 or 3 or 4
16. 5 or 6
17. 7 or 8 or 9 or 10 or 11
18. 12 or 13 or 14
19. 15 and 16 and 17 and 18
**Searching Results**

**PubMed:**
Total citations yielded = 63  
Limited to RCTs = 14  
Paper excluded after screening = 7  
(1 paper in German; 1 paper included adult patients; 1 paper is a systematic review; 1 paper has different outcome measures; 1 paper about tool assessment; 1 paper has no educational intervention; 1 paper has same study population as another paper)

Number of citations fit the inclusion and exclusion criteria = 7

**Medline:**
Total citations yielded = 44  
Limited to RCTs = 11  
Paper excluded after screening = 4  
(1 paper in German; 1 paper included adult patients; 1 paper has different outcome measures; 1 paper has same study population as another paper)

Number of citations fit the inclusion and exclusion criteria = 7

**Cochrane Library:**
Total citations yielded = 7  
Limited to RCTs = 7  
Paper excluded after screening = 4  
(1 paper in German; 1 paper is a systematic review; 1 paper has no educational intervention; 1 paper has same study population as another paper)

Number of citations fit the inclusion and exclusion criteria = 3

<table>
<thead>
<tr>
<th>Total citations yielded = 114</th>
<th>Total citations (limited to RCTs) = 32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of papers excluded = 15</td>
<td>Total remained = 17</td>
</tr>
<tr>
<td>Discard duplicate paper, Total remained = 7</td>
<td>Additional articles based on screening of reference lists = 1</td>
</tr>
</tbody>
</table>

**TOTAL SELECTED ARTICLES in this study = 8**
Appendix B – Quality Appraisal Tool
Critical Appraisal Skills Programme (CASP)
making sense of evidence

10 questions to help you make sense of randomised controlled trials

How to use this appraisal tool
Three broad issues need to be considered when appraising the report of a randomised controlled trial:
• Is the trial valid?
• What are the results?
• Will the results help locally?

The 10 questions on the following pages are designed to help you think about these issues systematically.

The first two questions are screening questions and can be answered quickly. If the answer to both is “yes”, it is worth proceeding with the remaining questions.

You are asked to record a “yes”, “no” or “can’t tell” to most of the questions. A number of italicised prompts are given after each question.

These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

The 10 questions are adapted from Guyatt GH, Sackett DL, and Cook DJ, Users’ guides to the medical literature. II. How to use an article about therapy or prevention. JAMA 1993; 270 (21): 2598-2601 and JAMA 1994; 271(1): 59-63

© Public Health Resource Unit, England (2006). All rights reserved.
No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior written permission of the Public Health Resource Unit. If permission is given, then copies must include this statement together with the words “© Public Health Resource Unit, England 2006”. However, NHS organisations may reproduce or use the publication for non-commercial educational purposes provided the source is acknowledged.

© Public Health Resource Unit, England (2006). All rights reserved.
Screening Questions

1. Did the study ask a clearly-focused question? □ Yes □ Can’t tell □ No

   Consider if the question is ‘focused’ in terms of:
   – the population studied
   – the intervention given
   – the outcomes considered

2. Was this a randomised controlled trial (RCT) □ Yes □ Can’t tell □ No and was it appropriately so?

   Consider:
   – why this study was carried out as an RCT
   – if this was the right research approach for the question being asked

Is it worth continuing?

Detailed Questions

3. Were participants appropriately allocated to intervention and control groups? □ Yes □ Can’t tell □ No

   Consider:
   – how participants were allocated to intervention and control groups. Was the process truly random?
   – whether the method of allocation was described. Was a method used to balance the randomization, e.g. stratification?
   – how the randomization schedule was generated and how a participant was allocated to a study group
   – if the groups were well balanced. Are any differences between the groups at entry to the trial reported?
   – if there were differences reported that might have explained any outcome(s) (confounding)

4. Were participants, staff and study personnel ‘blind’ to participants’ study group? □ Yes □ Can’t tell □ No

   Consider:
   – the fact that blinding is not always possible
   – if every effort was made to achieve blinding
   – if you think it matters in this study
   – the fact that we are looking for ‘observer bias’
5. Were all of the participants who entered the trial accounted for at its conclusion?

Consider:
– if any intervention-group participants got a control-group option or vice versa
– if all participants were followed up in each study group (was there loss-to-follow-up?)
– if all the participants’ outcomes were analysed by the groups to which they were originally allocated (intention-to-treat analysis)
– what additional information would you liked to have seen to make you feel better about this

6. Were the participants in all groups followed up and data collected in the same way?

Consider:
– if, for example, they were reviewed at the same time intervals and if they received the same amount of attention from researchers and health workers. Any differences may introduce performance bias.

7. Did the study have enough participants to minimise the play of chance?

Consider:
– if there is a power calculation. This will estimate how many participants are needed to be reasonably sure of finding something important (if it really exists and for a given level of uncertainty about the final result).

8. How are the results presented and what is the main result?

Consider:
– if, for example, the results are presented as a proportion of people experiencing an outcome, such as risks, or as a measurement, such as mean or median differences, or as survival curves and hazards
– how large this size of result is and how meaningful it is
– how you would sum up the bottom-line result of the trial in one sentence
9. How precise are these results?

Consider:
– if the result is precise enough to make a decision
– if a confidence interval were reported. Would your decision about whether or not to use this intervention be the same at the upper confidence limit as at the lower confidence limit?
– if a p-value is reported where confidence intervals are unavailable

10. Were all important outcomes considered so the results can be applied?

Consider whether:
– the people included in the trail could be different from your population in ways that would produce different results
– your local setting differs much from that of the trial
– you can provide the same treatment in your setting

Consider outcomes from the point of view of the:
– individual
– policy maker and professionals
– family/carers
– wider community

Consider whether:
– any benefit reported outweighs any harm and/or cost. If this information is not reported can it be filled in from elsewhere?
– policy or practice should change as a result of the evidence contained in this trial
### Appendix C – Key to evidence statements and grades of recommendations

#### Level of evidence

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1++</td>
<td>High quality meta-analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias</td>
</tr>
<tr>
<td>1+</td>
<td>Well conducted meta-analyses, systematic reviews, or RCTs with a low risk of bias</td>
</tr>
<tr>
<td>1-</td>
<td>Meta-analyses, systematic reviews, or RCTs with a high risk of bias</td>
</tr>
<tr>
<td>2++</td>
<td>High quality systematic reviews of case control or cohort studies</td>
</tr>
<tr>
<td></td>
<td>High quality case control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal</td>
</tr>
<tr>
<td>2+</td>
<td>Well conducted case control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal</td>
</tr>
<tr>
<td>2-</td>
<td>Case control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal</td>
</tr>
<tr>
<td>3</td>
<td>Non-analytic studies, e.g. case reports, case series</td>
</tr>
<tr>
<td>4</td>
<td>Expert opinion</td>
</tr>
</tbody>
</table>

#### Grades of recommendation

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>At least one meta-analysis, systematic review, or RCT rated as 1++, and directly applicable to the target population; or</td>
</tr>
<tr>
<td></td>
<td>A body of evidence consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results</td>
</tr>
<tr>
<td>B</td>
<td>A body of evidence including studies rated as 2++, directly applicable to the target population, and demonstration overall consistency of results; or Extrapolated evidence from studies rated as 1++ or 1+</td>
</tr>
<tr>
<td>C</td>
<td>A body of evidence including studies rated as 2+, directly applicable to the target population and demonstration overall consistency of results; or Extrapolated evidence from studies rated as 2++</td>
</tr>
<tr>
<td>D</td>
<td>Evidence level 3 or 4; or Extrapolated evidence from studies rated as 2+</td>
</tr>
</tbody>
</table>

#### Good practice points

Recommended best practice based on the clinical experience of the guideline development group
**Appendix D - Tables of Evidence**


<table>
<thead>
<tr>
<th>Study type and EV level</th>
<th>Patient characteristics</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Length of follow up</th>
<th>Outcome measures</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinn, Poyner &amp; Sibley (2002)</td>
<td>-n=235</td>
<td>-n=105 (Dropout= 14)</td>
<td>-n=92 (Dropout=24)</td>
<td>12 months (at interval 0, 4 &amp; 12 week)</td>
<td>Primary: (1) Quality of Life: (a) for aged ≤ 4 years Infant Dermatitis Quality of Life (IDQOL)</td>
<td>At 12 week: (1a) IDQOL - 1.2 (95%CI -0.8 to 3.1) (p=0.24)</td>
</tr>
<tr>
<td></td>
<td>-Aged 6 months-4 years (n=115) (Mean 2.14, SD 1.07)</td>
<td>-Additional 30-min single session by a trained dermatology nurse after normal medical consultation</td>
<td>-Normal medical consultation only without additional education</td>
<td></td>
<td>(b) for aged 4-16 years Children’s Dermatology Life Quality Index (CDLQI)</td>
<td>(1b) CDLQI - 0.24 (95%CI -1.5 to 2.0) (p=0.7)</td>
</tr>
<tr>
<td></td>
<td>-Aged 4-15.5 years (n=120) (Mean 8.86, SD 3.11)</td>
<td>-Consisted of advise, education and demonstration of how to apply medications</td>
<td></td>
<td></td>
<td>(2) Dermatitis Family Impact (DFI)</td>
<td>(2) DFI - 0.34 (95%CI -0.8 to 1.5) (p=0.5)</td>
</tr>
<tr>
<td></td>
<td>- Both new and old cases of AD selected from a weekly review of two assigned GPs’ computerized database</td>
<td></td>
<td></td>
<td></td>
<td>Overall Comment: The impact on quality of life of a single intervention by a dermatology nurse was not apparent. Further studies in larger populations using additional outcomes measures are required.</td>
<td></td>
</tr>
</tbody>
</table>

70

<table>
<thead>
<tr>
<th>Study type and EV lev</th>
<th>Patient characteristics</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Length of follow up</th>
<th>Outcome measures</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grillo et al. (2006)</td>
<td>-n=61 (3 dropout but data was included in analysis)</td>
<td>-n=29 -Extra 2-hour nursing education program after normal medical consultation -Consisted of workshop on AD trigger factors, skin care and treatment, together with a practical session</td>
<td>-n=32 -Usual care including routine education and normal medical consultation -Opportunity to join in workshop after study period</td>
<td>3 months (at interval 0, 4 &amp; 12 week)</td>
<td>Primary: (1) Severity of eczema (SCORAD) (2) Quality of Life: (a) for aged ≤ 4 years (IDQOL) (b) for aged 4-16 years (CDLQI) Secondary: (3) Dermatitis Family Impact (DFI)</td>
<td>At 12 week: Intervention vs Control (1) 23.52 vs 40.21 (p&lt;0.005) (2a) 6.91 vs 5.33 (p&gt;0.05) (2b) 1.75 vs 7.08 (p=0.004) (3) 7.47 vs 7.89 (p&gt;0.05)</td>
</tr>
<tr>
<td>RCT (1-)</td>
<td>-35 boys and 26 girls -Aged 4 months- 13 years (Mean age of 4.3 years) -Old cases of AD recruited from one hospital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Comment:** The intervention was effective in reducing skin severity and improving the quality of life among children aged from 4 to 16 years.

<table>
<thead>
<tr>
<th>Study type and EV level</th>
<th>Patient characteristics</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Length of follow up</th>
<th>Outcome measures</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staab et al. (2006)</td>
<td>-n=992</td>
<td>-n=446</td>
<td>-n=377</td>
<td>12 months (at interval 0, 6 &amp; 12 month)</td>
<td>Primary: (1) Severity of eczema (SCORAD) in all age groups</td>
<td>At 12 month: (1a) -5.2 (p=0.0002) (1b) -8.2 (p=0.003) (1c) -14.5 (p&lt;0.0001)</td>
</tr>
<tr>
<td></td>
<td>-All old cases with diagnosis of AD, recruited from seven centers</td>
<td>(Dropout= 50)</td>
<td>(Dropout= 119)</td>
<td></td>
<td>(2) Itching coping behavior: (b) 8-12 years &amp; (c) 13-18 years</td>
<td>(2b) Subscale catastrophisation -5.2 (p&lt;0.0001) &amp; coping 1.5 (p=0.047)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Extra 2-hour group and standardized intervention programs once weekly for six weeks</td>
<td>-Routine care without special education</td>
<td></td>
<td>(3) Parental quality of life among (a) 3 months- 7 years &amp; (b) 8-12 years</td>
<td>(2c) Subscale catastrophisation -4.7 (p=0.0002) &amp; coping -0.6 (p=0.875)</td>
</tr>
<tr>
<td></td>
<td>3 Different Age Groups: (a) 3 months to 7 years (Mean 2.4, SD 1.8) &amp; (b) 8 to 12 years (Mean 9.5, SD 1.6) &amp; (c) 13 to 18 years (Mean 14.9, SD 1.7)</td>
<td>- Group a (n=274) Group b (n=102) Group c (n=70)</td>
<td>- Group a (n=244) Group b (n=83) Group c (n=50)</td>
<td></td>
<td>(3a) All 5 subscales were significantly greater (3b) 3 out of 5 subscales were significantly greater</td>
<td></td>
</tr>
</tbody>
</table>

**Overall Comment:** Results support presence of beneficial effect of age related education in both children with AD and their parents.

<table>
<thead>
<tr>
<th>Study type and EV lev</th>
<th>Patient characteristics</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Length of follow up</th>
<th>Outcome measures</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCT (1-)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-n=151</td>
<td></td>
<td>-n=51 (Dropout= 19)</td>
<td>-n=55 (Dropout= 26)</td>
<td>9 months (at interval 0 &amp; (1 or 3) month based on clinical severity)</td>
<td>Primary: (1) Skin severity improvement (SCORAD)</td>
<td>At the end: (1) Intervention 31% vs Control 21% (p=0.27)</td>
</tr>
<tr>
<td>-New and return patients with AD, aged 0-18 years</td>
<td>-Received a 15 minutes individual education session with AD educator (a senior medical student) included behavioral instructions after medical consultation</td>
<td>-Normal medical consultation</td>
<td></td>
<td>(2) Quality of Life: (a) for aged ≤ 4 years (IDQOL) (b) for aged 4-18 years (CDLQI)</td>
<td>(2a) Intervention 31% vs Control 27% (p=0.77) (2b) Intervention 15% vs Control -3% (p=0.51)</td>
<td></td>
</tr>
<tr>
<td>-46 Male &amp; 56 Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Age (Control Group) (Mean 4.62, SD 4.05)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Age (Intervention Group) (Mean 6.34, SD 15.95)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Recruited from Sept 2004 to May 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Comment:** Subjects for measuring CDLQI did not randomize equally at the beginning of study. Thus, the control group has worse CDLQI scores. Also, the dropout rate was relatively high as 30%. Education from a trained medical student may not have been as thorough or effective as that from a nurse experienced with AD.

<table>
<thead>
<tr>
<th>Study type and EV lev</th>
<th>Patient characteristics</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Length of follow up</th>
<th>Outcome measures</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weber et al. (2008)</td>
<td>-n=36</td>
<td>-n=16 (Dropout= 2)</td>
<td>-n=16 (Dropout= 2)</td>
<td>12 months (at interval 0 &amp; 6 month)</td>
<td>Primary: (1) Pattern of pruritus (Yosipovitch’s questionnaire)</td>
<td>At 12 month: (1) There was a significant difference in the pattern of pruritus after the intervention (p=0.023)</td>
</tr>
<tr>
<td></td>
<td>- Children with moderate or severe AD</td>
<td>-Support groups: Children: 90-min session included play, education and task related to disease &amp; treatment</td>
<td>-Routine care</td>
<td></td>
<td>(2) Quality of life (CDLQI)</td>
<td>(2) CDLQI: -1 (p&lt;0.01) showed significant improvement in comparison</td>
</tr>
<tr>
<td></td>
<td>- Each patient/family unit was considered as one ‘patient’</td>
<td></td>
<td></td>
<td></td>
<td>(3) Dermatitis Family Impact (DFI)</td>
<td>(3) Failed to show differences (p&gt;0.05)</td>
</tr>
<tr>
<td></td>
<td>- Control Group with 56.2% girls, Average age (79.44 ± 53.86 months)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Intervention Group with 31.2% girls, Average age (79.31 ± 49.82 months)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Comment:** Study showed support groups could enhance the management of AD and improve clinical symptoms and quality of life.

<table>
<thead>
<tr>
<th>Study type and EV lev</th>
<th>Patient characteristics</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Length of follow up</th>
<th>Outcome measures</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moore et al. (2009)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RCT (1++)</td>
<td>- n=112</td>
<td>- n=49</td>
<td>- n=50</td>
<td>6 months</td>
<td>Primary: (1) Severity of eczema (SCORAD)</td>
<td>At 4 week: (1) -9.93 (95%CI -14.57 to -5.29) (p&lt;0.001)</td>
</tr>
<tr>
<td></td>
<td>- All new cases (referrals), aged 0-16 years</td>
<td>(Dropout= 5)</td>
<td>(Dropout= 8)</td>
<td>(at interval 0 &amp; 4 week)</td>
<td>Secondary: (2) Comparison of the eczema treatment</td>
<td>(2) Intervention group showed greater adherence to treatment (Example: using wet dressings – 76% intervention vs 12% control) (p&lt;0.05)</td>
</tr>
<tr>
<td></td>
<td>- 54 Male &amp; 45 Female</td>
<td>- Received a 90 minutes nurse-led eczema workshop</td>
<td>-Received average 40 minutes consultation in dermatologist-led clinic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Age (Control Group)</td>
<td>- Consisted of training and demonstration of topical treatment application, written information booklet and management plan provided</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Mean 45 months, SD 44)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Age (Intervention Group)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Mean 34 months, SD 33)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Recruited from Dec 2005 to May 2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Comment**: A nurse-led eczema workshop have more time in education and demonstration of treatments. The intervention showed greater improvement in severity of eczema.

<table>
<thead>
<tr>
<th>Study type and EV lev</th>
<th>Patient characteristics</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Length of follow up</th>
<th>Outcome measures</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kupfer et al. (2010)</strong></td>
<td>-n=206</td>
<td>-n=105 (Dropout= 3)</td>
<td>-n=101 (Dropout= 18)</td>
<td>12 months (at interval 0 &amp; 12 month)</td>
<td>Primary: (1) Quality of life: Children’s coping behavior (COPEKI) (2) Parental disease management (FEN)</td>
<td>At 12 month: (1) Showed greater improvement in intervention group (p&lt;0.05) (2) Showed significant differences in 3 out of 4 subscales (p&lt;0.003)</td>
</tr>
<tr>
<td>RCT (1+)</td>
<td>-AD children aged 8-12 years and their parents, recruited from seven centers</td>
<td>-Extra 2-hour group and standardized intervention programs once weekly for six weeks -Consisted of nutritional, psychological and treatment advise</td>
<td>-Normal care without education, have opportunity to join in intervention after study period</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Control Group with 51.8% boys, Age (Mean 9.95, SD 1.50)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Intervention Group with 59.8% boys, Age (Mean 9.85, SD 2.01)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Comment:** This was an extended study, according to the results of the previous studies, mainly focused on the psychological effects towards education program to AD children and their parents. Evidence revealed such program helped to improve coping and management skills in AD.

<table>
<thead>
<tr>
<th>Study type and EV lev</th>
<th>Patient characteristics</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Length of follow up</th>
<th>Outcome measures</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schuttelaar et al. (2010)</td>
<td>- n=160 (Aged 0-16 years) - All new cases (referrals) - Age ≤ 4 years: Control include 72.5% boys, age (mean 1.6, SD 1.2) Intervention included 75.0% boys, age (mean 1.5, SD 1.1) - Age 4-16 years: Control include 48.7% boys, age (mean 9.3, SD 4.0) Intervention included 48.8% boys, age (mean 9.1, SD 3.9) - Recruited from May 2005 to Aug 2008</td>
<td>- n=81 (Dropout= 2) - Average 30-min consultation by nurse practitioners. (Demonstration of cream application, education on disease nature &amp; coping skills) - Additional 20-min follow-up 2 weeks after first visit. - No medical consultation was arranged.</td>
<td>- n=79 (Dropout= 6) - Average 20-min conventional treatment by dermatologist without nursing education.</td>
<td>12 months (at interval 0, 4, 8 &amp; 12 month)</td>
<td>Primary: (1) Quality of Life: (a) for aged ≤ 4 years (IDQOL) (b) for aged 4-16 years (CDLQI) (2) Dermatitis Family Impact (DFI) (3) Eczema severity (SCORAD) (4) Patient satisfaction (Client Satisfaction Questionnaire-8, CSQ-8)</td>
<td>At 12 month: (1a) -1.7 (95% CI -4.6 to 1.2) (p=0.26) (1b) -0.7 (95% CI -3.3 to 1.7) (p=0.55) (2) -0.5 (95% CI -2.4 to 1.5) (p=0.65) (3) 0.2 (95% CI -5.4 to 5.7) (p=0.9) (4) -2.1 (95% CI -3.0 to -0.3) (p&lt;0.02)</td>
</tr>
</tbody>
</table>

**Overall Comment:** The findings showed that the level of care through this intervention was similar to that by a dermatologist. In addition, parents were more satisfied with the intervention compared with the conventional care.
**Appendix E - Tables of Quality Appraisal**

<table>
<thead>
<tr>
<th>Bibliographic citation: Chinn, Poyner &amp; Sibley (2002)</th>
<th>No. 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Study Type:</strong> RCT</td>
<td></td>
</tr>
<tr>
<td><strong>1</strong> Did the study ask a clearly-focused question?</td>
<td>Yes. The population, intervention and outcomes were stated clearly in the section of Methods.</td>
</tr>
<tr>
<td><strong>2</strong> Was this a randomized controlled trial (RCT) and was it appropriately so?</td>
<td>Yes.</td>
</tr>
<tr>
<td><strong>3</strong> Were participants appropriately allocated to intervention and control groups?</td>
<td>Yes. Randomization was done by Sample Size software in blocks of 20. No differences between groups at entry reported.</td>
</tr>
<tr>
<td><strong>4</strong> Were participants, staff and study personnel ‘blind’ to participants’ study group?</td>
<td>No. Blinding was not possible in the study. The blinding process was not mentioned.</td>
</tr>
<tr>
<td><strong>5</strong> Were all of the participants who entered the trial accounted for at its conclusion?</td>
<td>No. Dropout rate was 16%. 9 received intervention but not followed up was not for analysis.</td>
</tr>
<tr>
<td><strong>6</strong> Were the participants in all groups followed up and data collected in the same way?</td>
<td>Yes. All participants were assessed in the same way.</td>
</tr>
<tr>
<td><strong>7</strong> Did the study have enough participants to minimise the play of chance?</td>
<td>Yes. Sample size calculation was mentioned. There were more than enough patients to attain a power of 80%.</td>
</tr>
<tr>
<td><strong>8</strong> How are the results presented and what is the main result?</td>
<td>Yes. Good use of tables and charts. Statistical analysis was clear. Main results were quality of life of children (IDQOL/ CDLQI) and Dermatitis Family Impact (DFI).</td>
</tr>
<tr>
<td><strong>9</strong> How precise are these results?</td>
<td>Fair (0.5). P value, Mean and SD stated in each outcome measures. No significant differences noted (p&gt;0.05).</td>
</tr>
<tr>
<td><strong>10</strong> Were all important outcomes considered so the results can be applied?</td>
<td>Yes. The result can be applied to the writer’s population.</td>
</tr>
</tbody>
</table>

**Comment:** Level of evidence (1+) 75% (7.5/10) fulfilled the criteria
<table>
<thead>
<tr>
<th></th>
<th>Study Type : RCT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Did the study ask a clearly-focused question?</td>
<td>Yes. The population, intervention and outcomes were stated clearly in the section of Methods.</td>
</tr>
<tr>
<td>2</td>
<td>Was this a randomized controlled trial (RCT) and was it appropriately so?</td>
<td>Yes.</td>
</tr>
<tr>
<td>3</td>
<td>Were participants appropriately allocated to intervention and control groups?</td>
<td>Fair (0.5). The randomization was done by a random number generator. The differences between groups were not mentioned.</td>
</tr>
<tr>
<td>4</td>
<td>Were participants, staff and study personnel ‘blind’ to participants’ study group?</td>
<td>No. Blinding was not possible in the study. The blinding process was not mentioned.</td>
</tr>
<tr>
<td>5</td>
<td>Were all of the participants who entered the trial accounted for at its conclusion?</td>
<td>No. Dropout rate was about 5%. The reasons of dropped out were stated. The intention-to-treat analysis was used.</td>
</tr>
<tr>
<td>6</td>
<td>Were the participants in all groups followed up and data collected in the same way?</td>
<td>Yes. All participants were assessed in the same way.</td>
</tr>
<tr>
<td>7</td>
<td>Did the study have enough participants to minimise the play of chance?</td>
<td>No. The number of participants in the control group was not enough (&lt;31/group) to achieve 80% power.</td>
</tr>
<tr>
<td>8</td>
<td>How are the results presented and what is the main result?</td>
<td>Fair (0.5). Make use of tables and charts to present the statistical analysis. Main results were skin severity (SCORAD), quality of life in terms of IDQOL, CDLQI and DFI.</td>
</tr>
<tr>
<td>9</td>
<td>How precise are these results?</td>
<td>Fair (0.5). Sample size was small. Data was collected from one hospital only. P value, Mean and SD stated in each outcome measures. SCORAD and CDLQI with p&lt;0.05.</td>
</tr>
<tr>
<td>10</td>
<td>Were all important outcomes considered so the results can be applied?</td>
<td>Yes. The result can be applied to the writer’s population.</td>
</tr>
</tbody>
</table>

**Comment:** Level of evidence (1-) 55% (5.5/10) fulfilled the criteria
<table>
<thead>
<tr>
<th>Study Type: RCT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Did the study ask a clearly-focused question?</td>
</tr>
<tr>
<td>2</td>
<td>Was this a randomized controlled trial (RCT) and was it appropriately so?</td>
</tr>
<tr>
<td>3</td>
<td>Were participants appropriately allocated to intervention and control groups?</td>
</tr>
<tr>
<td>4</td>
<td>Were participants, staff and study personnel ‘blind’ to participants’ study group?</td>
</tr>
<tr>
<td>5</td>
<td>Were all of the participants who entered the trial accounted for at its conclusion?</td>
</tr>
<tr>
<td>6</td>
<td>Were the participants in all groups followed up and data collected in the same way?</td>
</tr>
<tr>
<td>7</td>
<td>Did the study have enough participants to minimise the play of chance?</td>
</tr>
<tr>
<td>8</td>
<td>How are the results presented and what is the main result?</td>
</tr>
<tr>
<td>9</td>
<td>How precise are these results?</td>
</tr>
<tr>
<td>10</td>
<td>Were all important outcomes considered so the results can be applied?</td>
</tr>
</tbody>
</table>

**Comment:** Level of evidence (1++) 85% (8.5/10) fulfilled the criteria
| Study Type : RCT |
|-----------------|--------------------------------------------------|
| **1** | Did the study ask a clearly-focused question? | Yes. The population, intervention and outcome measures were mentioned in section of Methods. |
| **2** | Was this a randomized controlled trial (RCT) and was it appropriately so? | Yes. |
| **3** | Were participants appropriately allocated to intervention and control groups? | No. Although randomization was adopted, there was statistical significant difference (CDLQI) between groups at entry reported (p<0.0001). |
| **4** | Were participants, staff and study personnel ‘blind’ to participants’ study group? | No. It is mentioned that blinding was not possible in this study. |
| **5** | Were all of the participants who entered the trial accounted for at its conclusion? | No. The dropout rate was about 30%. There were no significant differences between adherers and dropouts. Reasons for not follow up were stated clearly. |
| **6** | Were the participants in all groups followed up and data collected in the same way? | Yes. All participants were assessed in the same way. |
| **7** | Did the study have enough participants to minimise the play of chance? | No. The number of participants in both groups were not enough (<75/group) to achieve 90% power. |
| **8** | How are the results presented and what is the main result? | Fair (0.5). Make use of tables to present the statistical analysis. Main results were SCORAD and quality of life of children (IDQOL/ CDLQI). |
| **9** | How precise are these results? | Not at all. One of outcome measures (CDLQI) did not randomize equally. No significant differences noted between groups (p>0.05). |
| **10** | Were all important outcomes considered so the results can be applied? | Yes. The result can be applied to the writer’s population. |

**Comment:** Level of evidence (1-) 45% (4.5/10) fulfilled the criteria
<table>
<thead>
<tr>
<th>Study Type: RCT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Did the study ask a clearly-focused question?</td>
<td>Yes. The population, intervention and outcome measures were mentioned in section of Method.</td>
</tr>
<tr>
<td><strong>2</strong> Was this a randomized controlled trial (RCT) and was it appropriately so?</td>
<td>Yes.</td>
</tr>
<tr>
<td><strong>3</strong> Were participants appropriately allocated to intervention and control groups?</td>
<td>Not at all (0.5). Randomization method was not mentioned in the study. However, there were no differences between groups at entry reported.</td>
</tr>
<tr>
<td><strong>4</strong> Were participants, staff and study personnel ‘blind’ to participants’ study group?</td>
<td>Can’t tell. The blinding process was not mentioned. However, it was believed blinding was not possible.</td>
</tr>
<tr>
<td><strong>5</strong> Were all of the participants who entered the trial accounted for at its conclusion?</td>
<td>No. The dropout rate was about 11%. Reasons for not follow up were not stated.</td>
</tr>
<tr>
<td><strong>6</strong> Were the participants in all groups followed up and data collected in the same way?</td>
<td>Yes. All participants were assessed in the same way.</td>
</tr>
<tr>
<td><strong>7</strong> Did the study have enough participants to minimise the play of chance?</td>
<td>Can’t tell (0.5). The sample size calculation and statistical power of study was not mentioned in the study.</td>
</tr>
<tr>
<td><strong>8</strong> How are the results presented and what is the main result?</td>
<td>Fair (0.5). The statistical analysis was not mentioned. The use of table and figure was not clearly presented. Main results were pattern of pruritus, CDLQI and DFI.</td>
</tr>
<tr>
<td><strong>9</strong> How precise are these results?</td>
<td>Fair (0.5). Sample size was small. Although P value was stated but analysis was not clear. CDLQI with p&lt;0.01.</td>
</tr>
<tr>
<td><strong>10</strong> Were all important outcomes considered so the results can be applied?</td>
<td>Yes. The result can be applied to the writer’s population.</td>
</tr>
</tbody>
</table>

**Comment:** Level of evidence (1+) 60% (6.0/10) fulfilled the criteria
<table>
<thead>
<tr>
<th>Study Type : RCT</th>
<th>No. 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Did the study ask a clearly-focused question?</strong></td>
<td>Yes. The population, intervention and outcome measures were mentioned in section of Methods.</td>
</tr>
<tr>
<td><strong>Was this a randomized controlled trial (RCT) and was it appropriately so?</strong></td>
<td>Yes.</td>
</tr>
<tr>
<td><strong>Were participants appropriately allocated to intervention and control groups?</strong></td>
<td>Yes. Randomization was done by sequentially numbered sealed, opaque envelopes in blocks of 10 using Stata 9 Statistical Software. No differences between groups at entry reported.</td>
</tr>
<tr>
<td><strong>Were participants, staff and study personnel ‘blind’ to participants’ study group?</strong></td>
<td>No. It is mentioned that blinding was not possible in this study.</td>
</tr>
<tr>
<td><strong>Were all of the participants who entered the trial accounted for at its conclusion?</strong></td>
<td>No. The dropout rate was about 12%. There were no significant differences between adherers and dropouts. Reasons for not follow up and those demographic data were stated clearly.</td>
</tr>
<tr>
<td><strong>Were the participants in all groups followed up and data collected in the same way?</strong></td>
<td>Yes. All participants were assessed in the same way.</td>
</tr>
<tr>
<td><strong>Did the study have enough participants to minimise the play of chance?</strong></td>
<td>Yes. The number of participants was enough (&gt;43/group) to achieve 80% power.</td>
</tr>
<tr>
<td><strong>How are the results presented and what is the main result?</strong></td>
<td>Yes. Good use of tables and charts. Statistical analysis is clear. Main results were SCORAD (p&lt;0.001) and comparison of treatment used.</td>
</tr>
<tr>
<td><strong>How precise are these results?</strong></td>
<td>Yes. P value, Mean and SD stated in each outcome measures. Bias was minimized with high inter-rater reliability (p&lt;0.001).</td>
</tr>
<tr>
<td><strong>Were all important outcomes considered so the results can be applied?</strong></td>
<td>Yes. The result can be applied to the writer’s population.</td>
</tr>
</tbody>
</table>

**Comment:** Level of evidence (1++) 80% (8.0/10) fulfilled the criteria
<table>
<thead>
<tr>
<th>Study Type</th>
<th>Study Question</th>
<th>Methodology</th>
<th>Participant Allocation</th>
<th>Blinding</th>
<th>Participant Follow-up</th>
<th>Data Collection</th>
<th>Sample Size</th>
<th>Results Presentation</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCT</td>
<td>Did the study ask a clearly-focused question?</td>
<td>Yes. The population, intervention and outcome measures were mentioned in section of Methods.</td>
<td>Not at all (0.5). Randomization method was not mentioned in the study. However, there were no differences between groups at entry reported.</td>
<td>No. Blinding process was not mentioned.</td>
<td>No. The dropout rate was about 10%. There were no significant differences between adherers and dropouts. Reasons for not follow up were stated clearly.</td>
<td>Yes. All participants were assessed in the same way.</td>
<td>Can’t tell. There was no statistical calculation of sample size to achieve certain power.</td>
<td>Fair (0.5). Make use of tables to present the statistical analysis. Main results showed quality of life in terms of coping behaviours (COPEKI) and parental disease management (FEN).</td>
<td>Level of evidence (1+) 60% (6.0/10) fulfilled the criteria</td>
</tr>
<tr>
<td>Study Type : RCT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1.</strong> Did the study ask a clearly-focused question?</td>
<td>Yes. The population, intervention and outcome measures were mentioned in section of Methods.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2.</strong> Was this a randomized controlled trial (RCT) and was it appropriately so?</td>
<td>Yes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3.</strong> Were participants appropriately allocated to intervention and control groups?</td>
<td>Yes. The randomization was stratified by age, using a computer-generated scheme. There were no differences between groups at entry reported.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.</strong> Were participants, staff and study personnel ‘blind’ to participants’ study group?</td>
<td>Not at all (0.5). Blinding was not possible for participants and staff. The trained outcome assessor was blinded.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5.</strong> Were all of the participants who entered the trial accounted for at its conclusion?</td>
<td>No. The dropout rate was about 5%. There were no significant differences between adherers and dropouts. Reasons for not follow up were stated clearly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6.</strong> Were the participants in all groups followed up and data collected in the same way?</td>
<td>Yes. All participants were assessed in the same way.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7.</strong> Did the study have enough participants to minimise the play of chance?</td>
<td>Yes. The number of participants was enough (&gt;40/group) to achieve 80% power.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>8.</strong> How are the results presented and what is the main result?</td>
<td>Yes. Detailed tables to interpret the statistical measurement. Main results were quality of life (IDQOL, CDLQI and DFI), SCORAD and patient satisfaction (CSQ-8).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>9.</strong> How precise are these results?</td>
<td>Yes. P value, Mean and SD stated in each outcome measures. CSQ-8 with p&lt;0.02 showed better satisfaction in intervention group.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>10.</strong> Were all important outcomes considered so the results can be applied?</td>
<td>Yes. The result can be applied to the writer’s population.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comment:** Level of evidence (1++) 85% (8.5/10) fulfilled the criteria
Appendix F - Summary of Quality Appraisal

RCTs (CASP Appraisal tool for RCT)

<table>
<thead>
<tr>
<th>Screening questions</th>
<th>Chinn et al., 2002</th>
<th>Grillo et al., 2006</th>
<th>Staab et al., 2006</th>
<th>Shaw et al., 2008</th>
<th>Weber et al., 2008</th>
<th>Moore et al., 2009</th>
<th>Kupfer et al., 2010</th>
<th>Schuttelaar et al., 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Clearly-focused question?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2 Randomized controlled trial?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3 Good randomization?</td>
<td>Yes</td>
<td>Fair</td>
<td>Yes</td>
<td>No</td>
<td>Not at all</td>
<td>Yes</td>
<td>Not at all</td>
<td>Yes</td>
</tr>
<tr>
<td>4 Blinding?</td>
<td>No</td>
<td>No</td>
<td>Not at all</td>
<td>No</td>
<td>Can’t tell</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>5 All participants accounted for conclusion?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>6 Same way in data collection?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>7 Power of study?</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Can’t tell</td>
<td>Yes</td>
<td>Can’t tell</td>
<td>Yes</td>
</tr>
<tr>
<td>8 Presentation of main result?</td>
<td>Yes</td>
<td>Fair</td>
<td>Yes</td>
<td>Fair</td>
<td>Fair</td>
<td>Yes</td>
<td>Fair</td>
<td>Yes</td>
</tr>
<tr>
<td>9 Precise result?</td>
<td>Fair</td>
<td>Fair</td>
<td>Yes</td>
<td>Not at all</td>
<td>Fair</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>10 Applications of outcomes?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Level of evidence (% of criteria fulfilled)</td>
<td>1+ (75%)</td>
<td>1- (55%)</td>
<td>1++ (85%)</td>
<td>1- (45%)</td>
<td>1+ (60%)</td>
<td>1++ (80%)</td>
<td>1+ (60%)</td>
<td>1++ (85%)</td>
</tr>
</tbody>
</table>
**Appendix G – Time Frame for Communication Plan & Pilot Study Plan**

<table>
<thead>
<tr>
<th>Time</th>
<th>People/ Activity Involved</th>
<th>Aim/ Content</th>
</tr>
</thead>
</table>
| Week 1     | 9 RNs (Obtain support)                           | Informal sharing:  
- Reasons for the change  
- New guideline content  
- Stress and doubt towards innovation  
- Possible difficulties encountered |
| Week 2-3   | 2 SNOs and 1 NO (Gain support and approval)      | Email & formal presentation:  
- Disadvantages of current practice  
- Innovation with evidence  
- Explain the guideline and time frame for implementation |
| Week 3-4   | COS (Gain support and approval)                  | Email & formal presentation:  
- Details of innovation  
- Advantages from innovation  
- Implementation plan |
| Week 5-6   | MOs (Obtain cooperation and support)             | Introduction in biweekly meeting:  
- Gain cooperation and support  
- No extra workload  
- Recruit AD children to intervention |
| Week 5-6   | 9 RNs                                             | Internal staff meeting held by NO:  
- Detailed content of new guideline  
- Arrange training program  
- Provide feedback towards intervention |
| Week 6     | Committee Group (CG) formation                  | Clinic NO, 2 Senior RNs and coordinator:  
- Monitor and report the progress  
- Arrange and organize the training content |
| Week 7-10  | Training to frontline nurses (by CG)             | Provide relevant workshop to nurses in order to standardize and refresh their knowledge in AD management |
| Week 9-10  | Preparation of necessary resources (by CG)       | Prepare adequate pamphlets, leaflets, evaluation forms, demonstration tools, etc. |
| Week 11    | Pilot study **START**                            | Recruit appropriate patients to participate in the intervention |
| Week 12-18 | Regular meeting with guideline users             | To collect feedback about the outcome of pilot study and refine the innovation |
| Week 19-22 | Evaluation of pilot study                        | To assess outcomes of guideline users |
Appendix H – What is SCORing of Atopic Dermatitis (SCORAD)?

SCORAD is best validated scoring system in atopic dermatitis (AD). It is clinical tool used to assess the extent and severity of AD. Dermatologists may use this tool before and after treatment to determine whether the treatment has been effective.

The SCORAD index formula is \((A/5 + 7B/2 + C)\). In this formula, A is defined as the extent (0-100), B is defined as the intensity (0-18) and C is defined as the subjective symptoms (0-20). The maximum score is 103.

### Area (A) (Maximum 100)

To determine extent, the sites of affected by eczema are shaded on a drawing of a body. The rule of 9 is used to calculate the affected area (A) as a percentage of the whole body.

- Head and neck (9%)
- Upper limbs (9% each)
- Lower limbs (18% each)
- Anterior trunk (18%)
- Back (18%)
- Genitals, each palm and each hand back (1% each)

### Intensity (B) (Maximum 18)

A representative area of eczema is selected. In this area, the intensity of each of the following signs is assessed as none (0), mild (1), moderate (2) or severe (3).

- Redness
- Swelling
- Oozing/ Crusting
- Scratch marks
- Skin thickening
- Dryness (area without inflammation)

### Subjective symptoms (C) (Maximum 20)

Subjective symptoms i.e., itch and sleeplessness, area each scored by the patient or relative using a visual analogue scale where 0 is no itch (or no sleeplessness) and 10 is the worst imaginable itch (or sleeplessness).

(Oranje, 2011)
Appendix I – Children’s Dermatology Life Quality Index (CDLQI)

English Version

Children’s Dermatology Life Quality Index

Hospital No: __________________________ Name: __________________________ Diagnosis: __________________________ CDLQI score

Age: __________ Date: __________ Address: __________________________

The aim of this questionnaire is to measure how much your skin problem has affected you OVER THE LAST WEEK. Please tick one box for each question.

1. Over the last week, how itchy, "scratchy", sore or painful has your skin been?
   
   Very much □  Quite a lot □  Only a little □  Not at all □

2. Over the last week, how embarrassed or self conscious, upset or sad have you been because of your skin?
   
   Very much □  Quite a lot □  Only a little □  Not at all □

3. Over the last week, how much has your skin affected your friendships?
   
   Very much □  Quite a lot □  Only a little □  Not at all □

4. Over the last week, how much have you changed or worn different or special clothes/shoes because of your skin?
   
   Very much □  Quite a lot □  Only a little □  Not at all □

5. Over the last week, how much has your skin trouble affected going out, playing, or doing hobbies?
   
   Very much □  Quite a lot □  Only a little □  Not at all □

6. Over the last week, how much have you avoided swimming or other sports because of your skin trouble?
   
   Very much □  Quite a lot □  Only a little □  Not at all □

7. Last week, school time? Over the last week, how much did your skin problem affect your school work?
   
   If school time: Over the last week, how much did your skin problem affect your school work?
   
   Very much □  Quite a lot □  Only a little □  Not at all □

   OR

   If holiday time: How much over the last week, has your skin problem interfered with your enjoyment of the holiday?
   
   Very much □  Quite a lot □  Only a little □  Not at all □

8. Over the last week, how much trouble have you had because of your skin with other people calling you names, teasing, bullying, asking questions or avoiding you?
   
   Very much □  Quite a lot □  Only a little □  Not at all □
9. Over the last week, how much has your sleep been affected by your skin problem?

    Very much □  
    Quite a lot □  
    Only a little □  
    Not at all □

10. Over the last week, how much of a problem has the treatment for your skin been?

    Very much □  
    Quite a lot □  
    Only a little □  
    Not at all □

Please check that you have answered EVERY question. Thank you.

©M.S. Lewis-Jones, A.Y. Finlay, May 1993, This must not be copied without the permission of the authors.
<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>過去一星期中，你皮膚發癢、&quot;搔抓&quot;、破皮、或疼痛的程度是如何？</td>
<td>非常嚴重</td>
<td>□</td>
<td>相當嚴重</td>
<td>□</td>
<td>只有一點</td>
<td>□</td>
</tr>
<tr>
<td>2.</td>
<td>過去一星期中，你因為自己皮膚問題而感到難為情、害羞、苦惱或難過的程度是如何？</td>
<td>非常嚴重</td>
<td>□</td>
<td>相當嚴重</td>
<td>□</td>
<td>只有一點</td>
<td>□</td>
</tr>
<tr>
<td>3.</td>
<td>過去一星期中，皮膚問題對你和朋友交往的影響是如何？</td>
<td>非常嚴重</td>
<td>□</td>
<td>相當嚴重</td>
<td>□</td>
<td>只有一點</td>
<td>□</td>
</tr>
<tr>
<td>4.</td>
<td>過去一星期中，你因為皮膚問題而改變穿著不同或特定衣鞋的影響是如何？</td>
<td>非常嚴重</td>
<td>□</td>
<td>相當嚴重</td>
<td>□</td>
<td>只有一點</td>
<td>□</td>
</tr>
<tr>
<td>5.</td>
<td>過去一星期中，皮膚的問題對你外出、玩耍、或從事休閒嗜好的影響是如何？</td>
<td>非常嚴重</td>
<td>□</td>
<td>相當嚴重</td>
<td>□</td>
<td>只有一點</td>
<td>□</td>
</tr>
<tr>
<td>6.</td>
<td>過去一星期中，你因為皮膚的問題而避免游泳、或其他活動的影響程度是如何？</td>
<td>非常嚴重</td>
<td>□</td>
<td>相當嚴重</td>
<td>□</td>
<td>只有一點</td>
<td>□</td>
</tr>
<tr>
<td>7.</td>
<td>過去一星期，它是上課期間？如果是上課期間：在過去一星期中，皮膚問題影響你學校功課的程度是如何？</td>
<td>不能上課</td>
<td>□</td>
<td>非常嚴重</td>
<td>□</td>
<td>相當嚴重</td>
<td>□</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>過去一星期中，因為皮膚的問題使得別人罵你、嘲笑你、欺負你、問你問題或躲避你，這種困擾程度是如何？</td>
<td>非常嚴重</td>
<td>□</td>
<td>相當嚴重</td>
<td>□</td>
<td>只有一點</td>
<td>□</td>
</tr>
</tbody>
</table>
9. 過去一星期中，你因皮膚的問題而影響到睡眠的程度是如何？
   - 非常嚴重 ☐
   - 相當嚴重 ☐
   - 只有一點 ☐
   - 完全沒有 ☐

10. 過去一星期中，針對皮膚所進行的治療對你產生的困擾程度是如何？
    - 非常嚴重 ☐
    - 相當嚴重 ☐
    - 只有一點 ☐
    - 完全沒有 ☐

請確認你已經回答完每一題問題，謝謝您。

©M.S. Lewis-Jones, A.Y. Finlay, May 1993, This must not be copied without the permission of the authors.
Appendix J – Client Satisfaction Questionnaire-8 (CSQ-8)

Client Satisfaction Questionnaire (CSQ-8)

Please help us improve our program by answering some questions about the services you have received. We are interested in your honest opinion, whether positive or negative. Please answer all questions. We also welcome your comments and suggestions. Thank you very much; we really appreciate your help.

PLEASE CHECK THE BOX BELOW THE RESPONSE YOU WANT TO MAKE TO EACH QUESTION.

A. How would you rate the quality of the service you received?
   □ (4) Excellent □ (3) Good □ (2) Fair □ (1) Poor

B. Did you get the kind of service you wanted?
   □ (1) No, definitely not □ (2) No, not really
   □ (3) Yes, generally □ (4) Yes, definitely

C. To what extent has our program met your needs?
   □ (4) Almost all of my needs have been met
   □ (3) Most of my needs have been met
   □ (2) Only a few of my needs have been met
   □ (1) None of my needs have been met

D. If a friend were in need of similar help, would you recommend our program to him or her?
   □ (4) No, definitely not □ (3) No, not really
   □ (2) Yes, generally □ (1) Yes, definitely

E. How satisfied are you with the amount of help you received?
   □ (4) Quite dissatisfied □ (3) Indifferent or mildly dissatisfied
   □ (2) Mostly satisfied □ (1) Very satisfied

F. Have the service you received helped you to deal more effectively with your problems?
   □ (4) Yes, they helped a great deal □ (3) Yes, they helped somewhat
   □ (2) No, they really did not help □ (1) No, they seemed to make things worse
G. In an overall, general sense, how satisfied are you with the service you have received?

☐ (4) Very satisfied  ☐ (3) Mostly satisfied
☐ (2) Indifferent or mildly dissatisfied  ☐ (1) Quite dissatisfied

H. If you were to seek help again, would you come back to our program?

☐ (4) No, definitely not  ☐ (3) I don’t think so
☐ (2) Yes, I think so  ☐ (1) Yes, definitely

Any comments or suggestions?

DELETE THIS FOLLOWING INFORMATION FROM THE VERSION YOU SEND:

Scoring
Scores are summed across items once
Items B, D, E, and H are reverse scored.
Total scores range from 8 to 32, with the higher number indicating greater satisfaction.

Source
Reprinting with permission from C.C. Attkisson (1991).
The CSQ was developed by C.C. Attkisson et at the University of California, San Francisco, Department of Psychiatry. Use for non-profit research and evaluation purposes is permitted. All other users by prior permission and users fee, without exception.
References


Scottish Intercollegiate Guidelines Network.


Staab, D., Diepgen, T.L., Fartasch, M., Kupfer, J., Lob-Corzilius, T., Ring, J., Scheewe, S., Scheidt, R., Schmid-Ott, G, Schnopp, C., Szczepanski, R., Werfel,


