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RESEARCH ARTICLE

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Effectiveness of *Shel* (purgation) with *Tshawa-suum* (herbal medicine paste) on *Langshu*: an observational study

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ABSTRACT

Introduction: Skin disease is one of the most common diseases treated at the National Traditional Medicine Hospital in Bhutan. Since the establishment of Inpatient Department in 2018, *Shel* (purgation) with *Tshawa-suum* paste application is used as the treatment for *Langshu* skin disorders. This study was conducted to assess the effectiveness of *Shel* with *Tshawa-suum* paste on *Langshu.*

Methods: It was an observational study conducted among patients admitted with *Langshu* at the National Traditional Medicine Hospital, Thimphu, Bhutan. A structured questionnaire was used to collect the sociodemographic details of the patients and Eczema Area and Severity Index (EASI) score was used to assess the severity and extent of skin lesions. Patients were assessed at three time points: before the treatment, after 7 days of treatment and on day 30 when the patients reported for follow-up care.

Results: The mean age of the patients (±SD) was 38.81 (±17.63) years and 57.14% were male. The majority of the patients were farmers (42.43%). At baseline, there were 6 patients with very severe *Langshu* lesion, 44 with severe and 20 with moderate condition. By day 30, only 3 had severe, 34 had mild and 33 had moderate condition. The study found statistically significant reduction in the mean EASI score from 30.12 on Day 0 to 17.25 on Day 7 and 8.46 on Day 30 ($p < 0.001$).

Conclusions: This study shows that the use of *Shel* with *Tshawa-suum* paste resulted in decrease in size and severity of *Langshu* skin lesions.

Keywords: Alternative medicine; Dermatology; Purgatives; Skin disease; Traditional Medicine

INTRODUCTION

In Bhutan, the Ministry of Health reported skin disorders as the second leading cause of morbidity seen across hospitals in the country [1]. In *Sowa Rigpa*, Bhutanese Traditional Medicine, skin diseases are collectively known as *pagney*. It is one of the top ten diseases treated at the National Traditional Medicine Hospital (NTMH). *Sowa Rigpa* classifies skin diseases into nine categories: *sha tra, zerpa, zakong, shuwa, sin thor, ngo shig, ngo khep, chema and langshu* [2]. *Langshu* is the most commonly treated skin diseases at NTMH. It literally translates as ox-scab, where the diseased skin looks like the scab on ox's neck formed as a result of abrasion of yoke. *Langshu* is characterized by various signs and symptoms including itching

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(za thruk lang pa), skin thickening *(pagpa thukppo),* rough *(tsubpa)* and leathery *(langhi nya tabu)*, dark coloured skin and redness *(pagdhog marmuk)* [3].

Treatment methods for skin diseases available at NTMH include: oral medicines, *langduk* (herbal steaming), *serkhap* (golden needle therapy), *tar* (bloodletting), *Shel* (purgation) and *Tshawa-suum* paste (herbal paste). Among the various methods of treatments, *Shel* (purgation) with topical application of *Tshawa-suum* paste (herbal paste) was started in 2018, with the establishment of an Inpatient Department (IPD). While anecdotal feedback from most of the patients were positive about the use of this therapy, some patients are sceptical about the effectiveness of the treatments.

A systematic review done in China where seven randomized control trails were included comparing Chinese herbal medicine and placebo reported that Chinese herbal medicine was found effective in improving the symptoms and severity of atopic dermatitis [4]. Similar study using Ayurvedic Medicine in India also found the purgation with local application of the herbal medicine was effective in reducing symptoms of *Vicharchika Kushtha* (eczema) [5]. However, no studies were found in Bhutan to assess the treatment outcome of Bhutanese Traditional Medicine on skin disease. Therefore, this study aimed to assess the outcome of the *Shel* with *Tshawa-suum* paste on the skin disease, *Langshu*.

METHOD

Study design

This was an observational study. It involved the patients with *Langshu* undergoing the therapy of *Shel* with *Tshawa-suum* paste in the In-Patient Department at NTMH, Kawang Jangsa, Thimphu, from November 2020 to October 2021.

Study setting

National Traditional Medicine Hospital is the apex Traditional Medicine hospital in Bhutan. Services include invasive therapies such as bloodletting, golden needle therapy, moxibustion, and acupuncture; non-invasive therapies such as herbal bath, herbal steaming, body massage and hot compression.

In 2018 a ten-bedded In-Patient Department was established and the services provided in the ward were mainly *lay-nga* therapies. *Lay-nga* is an eliminative therapy in *Sowa Rigpa* that involves five actions which helps in detoxification, cleansing and rejuvenation of the body and mind [6]. The therapies include *shel* (purgation), *chug* (emesis), *namen* (nasal cleansing), *jamtse* (mild enema) and *nerukha* (strong enema). Skin disorder is the most common reason for admission to ward.

Study population and sample size

All patients with *Langshu* who came to avail *Shel* treatment in NTMH were invited to participate in the study. However, patients with diabetes and hypertension and those on allopathic medicines for long-standing co-morbid conditions were excluded. Among 75 patients with *Langshu* included for this study, five patients dropped out of this study due to challenges in follow-up and COVID-19 pandemic travel restrictions.

Diagnosis and treatment of Langshu

The diagnosis of the disease (*Langshu*) was confirmed by two specialist *drungtshos* with decision by consensus. The diagnosis is based on the clinical signs and symptom of the *Langshu* as per *Sowa Rigpa* text which includes erythema, papulation, excoriation and lichenification [3].

As per the *Sowa Rigpa* text, *Langshu* can be treated well by *Shel* with the application of *Tshawa-suum paste. Shel* is the procedure wherein body toxins are flushed through controlled purgation. *Sowa Rigpa* explains that *Shel* is the best treatment to overcome accumulation of excess *Thripa* (bile), which would otherwise give rise to diseases such as gastritis, abscess, liver disorders, diabetes and skin disorders [3]. *Tshawa-suum* is composed of five herbal ingredients *chetsha (Ranunculus brotherusi)*, *emong (Clematis acutangula) supka (Anemone griffithii), muzi (Sulphur navitum)*, *dongroe* (realgar) and *phagtshel* (pig lark) which are prepared into a paste and applied on the affected area, along with the *Shel* therapy [7].

On the day of admission, information of the patients related to skin diseases were recorded. The body surface area affected by *Langshu* were recorded on the case record form. The sampled patients were given the usual treatment using *Shel* with *Tshawa-suum* paste as per the standard treatment protocols approved by the hospital. The treatment was provided by the *drungtshos* and *menpa* on duty in the ward, while the investigator remained as a passive observer. The skin lesion of the patients was assessed for the second time on day 7 and recorded. The final assessment of the skin lesion was conducted on day 30, when the patients reported for the follow-up examination.

The treatment included topical application of *Tshawa-suum* paste on their affected skin once daily for seven days. The paste was applied evenly and kept overnight and were asked to wash away in the morning. Simultaneously, the patients were prepared for the *Shel* therapy with pre-therapy preparation for five days. The pre-therapy/procedures such as consumption of *zhun-maar* (processed butter) and other dietary advices were as per the guidelines of *Shel* therapy.

On the fifth day, the *Shel* therapy was conducted where the patients were given *Shel* medicine at 6.00 am. The patients were given 250 mL of *jamtsa chukuel*, a salty water every fifteen minutes. On average, after thirty minutes the patients started emptying their bowel frequently. The *drungtsho* and *menpa* on duty had monitored the patients and kept the records of the frequency and the colour of the stool, based on which the decision was taken to continue or to stop the *Shel* medication.

The *Shel* procedure was continued until the stool colour appeared like water with more frequency of visits to the toilet. On an average, after the tenth visit to toilet, the patients were given the *dreyoe sumthang,* a medicine to stop the *Shel*. Patients were advised to consume easily digestible diet and avoid strenuous behaviours after the treatment and was monitored for a day [8]. The details of patient flow and data collection procedure is shown in Figure 1.

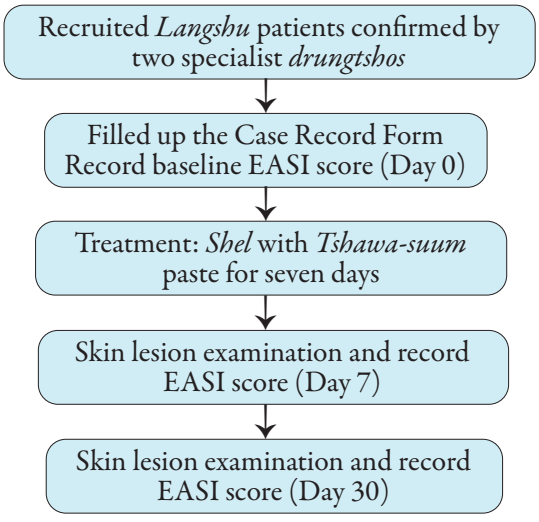

Figure 1. Summary of study procedure on the administration of *Shel* and *Tshawa-suum* for *Langshu* skin condition

Study tool

The questionnaire consisted of two parts: Part A collected the demographic profile and Part B recorded the skin lesion of *Langshu* using Eczema Area and Severity Index (EASI) scoring table. Given the lack of an appropriate tool in Traditional Medicine, the EASI score was used as a substitute. EASI score is the most reliable among the other several outcome measures for treatment follow in patients with atopic dermatitis [9]. The EASI score comprises of the percentage of body surface area involvement, severity of skin lesions compared to a standard atlas and the generation of EASI score based on the metrics given in the tool. The EASI score ranged from 1 to 72 and the scores were categorized as 1 – 7 = mild, 7.1 – 21 = moderate, 21.1 – 50 = severe and 50.1 – 72 = very severe.

Data entry and analysis

Data collected were entered twice and validated using the EpiData Entry version 3.1 and analysed using EpiData Analysis version 2.2.2.183 (EpiData Association, Odense, Denmark). Socio-demographic characteristics were described using frequencies and proportion for categorical variables and mean with standard deviation (SD) for continuous variables. For inferential statistics, paired t-test was used to compare the mean EASI score for pre- and post-intervention of each patient. Repeated measure ANOVA test was conducted to compare the mean EASI score between Day 0, Day 7 and Day 30.

Ethics approval

Ethics approval for this study was granted by Interim Institutional Review Board, Khesar Gyalpo University of Medical Sciences of Bhutan, Thimphu, Bhutan, vide approval no. INTERIM IRB/PO20/022/ 454 dated 24 September 2020. Administrative clearance was obtained from the Medical Superintendent of NTMH. The permission to use EASI score tool was obtained from Wiley Global Permission. Informed consent was obtained from all the patients before the collection of data.

RESULTS

There were 70 patients with *Langshu*, 57.14% were male and the majority of the patients were literate. The mean age of the patients (±SD) was 38.81 (±17.63) years. The basic characteristics of the patients are given in Table 1. The majority of the patients had *Langshu* on lower limbs followed by upper limbs and trunk(Table 1).

Assessment of EASI score

On Day 0, majority of the patients fell in severe and

very severe (n = 50) categories. After 7 days of treatment, patients migrated to moderate and severe (n = 65) categories. On Day 30 follow up, 67 many patients had mild and moderate condition. On Day 0, 6 patients had very severe *Langshu* lesions, while there were no patients with very severe condition on Day 30 (Figure 2).

Over the period of treatment, there was serial reduction in the mean EASI score from 30.12 at baseline to 17.25 on Day 7 and 8.46 on Day 30, $p < 0.001$, as shown in Table 2 and Figure 3.

As shown in Figure 4 and 5, there was marked improvement in terms of reduction of the size of lesion, redness and skin patches.

Table 1. Sociodemographic characteristics of the patients with *Langshu* treated at the National Traditional Medicine Hospital, November 2021 to October 2022 (n = 70)

Characteristics	n	(%)
Age group (years)		
18 – 39	42	(60.00)
40 – 59	17	(24.29)
60 years and above	11	(15.71)
Sex		
Female	30	(42.86)
Male	40	(57.14)
Occupation		
Farmer	29	(41.43)
Private sector	15	(21.43)
Religious	15	(21.43)
Others	11	(15.71)
Education		
Cannot read or write *Dzongkha* or English	49	(70.00)
Can read or write *Dzongkha* or English	21	(30.00)
Body part involved with *langshu**		
Head and neck	33	(17.00)
Trunk	45	(23.00)
Upper limbs	52	(27.00)
Lower limbs	63	(33.00)

*Some patients had multiple body parts affected by *Langshu* lesions

DISCUSSION

This study found that there was a significant decrease in the size of *langshu* skin lesions using Bhutanese Traditional Medicine, *Shel* with *Tshawa-suum* paste. The reduction in severity of *langshu* skin lesions following the treatments is similar to a finding in China, where herbal decoction and herbal ointment

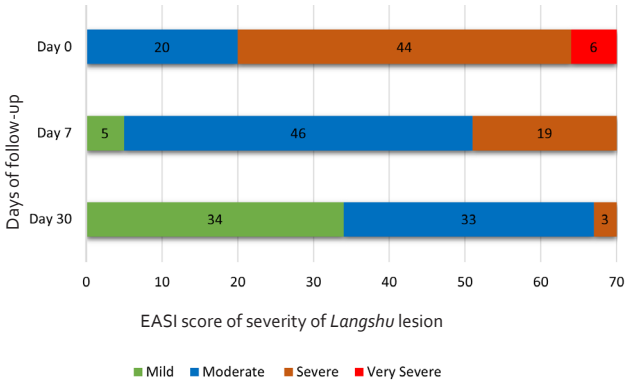

Figure 2. Severity of the skin lesions in patients with *Langshu* following treatment with *Shel* and *Tshawa-suum* at the National Traditional Medicine Hospital, November 2021 to October 2022 (n = 70)

Table 2. Mean EASI score of the patients with *Langshu* at National Traditional Medicine Hospital, November 2021 to October 2022 (n = 70)

Assessment days	Eczema Area and Severity Index	p value
Day 0 – Day 7	30.12 – 17.25	
Day 0 – Day 30	30.12 – 8.46	<0.001*
Day 7 – Day 30	17.25 – 8.46	
Day 0	30.12	
Day 7	17.25	<0.001**
Day 30	8.46	

*t-test
**Repeated measure ANOVA test

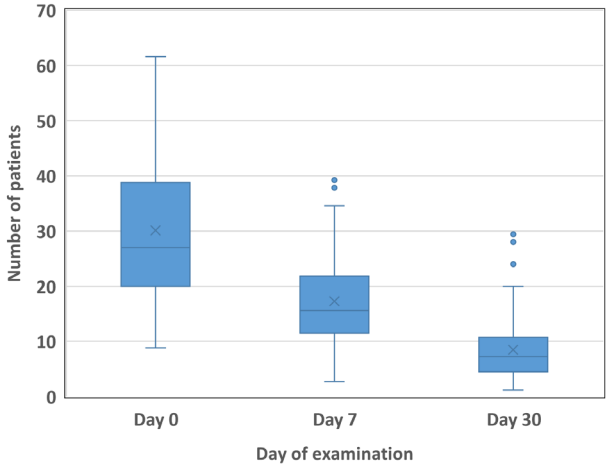

Figure 3. Mean Eczema Area and Severity Index score of the patients with *Langshu* treated with *Shel* and *Tshawa-suum* at National Traditional Medicine Hospital, November 2021 to October 2022 (n = 70)

was found effective for chronic eczema [5]. A study among *Langshu* patients with purgation treatment in Tibet in 2017 showed that, the purgation helps in expelling the causes of langshu out of the body (རྒྱུ

ནུར་དང་རྒྱས་པར་སོགས་ནད་རྒྱུན་སྐྱེགས་རོ་རྣ་ལྟེའི་གང་གི་བུ་གར་དུངས་ཏེ་ཕྱིར་འཐིན་པའམ་སྟོངས་བར་བྱེད་པ་ཡིན།) [10].

Figure 4. Decrease in the size of *Langshu* skin lesion on the anterior aspect of left leg with use of *Shel* and *Tshawa suum* on a 76-year-old male patient treated at the National Traditional Medicine Hospital, Bhutan, 2021

The ingredients of the *Shel* with *Tshawa-suum* paste, such as *chetsha* and *durjed*, contain anti-septic, anti-pyretic and anti-tumour properties [11]. The antiseptics are effective for the skin diseases such as atopic eczema [12]. One of the main ingredients in the *Shel* therapy is *aru ra (Terminalia chebula)*, which contains antibacterial, antioxidant, antiviral and antifungal properties. Other ingredient such as *emong (Clematis acutangular), somaraza (Abelmos moschatus), shrikhenda (Euphorbia royleana)* and *dongroe (realgar)* contains the potency to cure imbalanced *chuser* (serum) and prevent unwanted serous fluid accumulation [13].

Figure 5. Resolution of *Langshu* skin lesion on the dorsal aspect of right forearm in a 24-year-old male, treated with *Shel* and *Tshawa suum* at the National Traditional Medicine Hospital, Bhutan, 2021

Location and severity index of skin lesion

Eczema is most commonly seen on the lower extremities, followed by the upper extremities and trunk [14]. In adults, lesions of eczema is common on the elbows, knee flexures, wrist, and ankles [15]. Similarly, *Langshu* is found more frequently on lower limbs and upper limbs, especially in young adults aged 18 – 39 years, who expose their limbs more than elderly people.

Most patients with *Langshu* are farmers, which could be due to their exposure to heat, cold, dust, and physical work. *Sowa Rigpa* text claims that *thripa* disorders are caused by physical work such as carrying loads and digging ground (མི་ཞིག་ཁུར་དང་ས་ཐུན་བགོས་པ་དང་། ཁང་དང་འགྲོ་ལས་དག་གིས་ཉེན་པ་དང་།།) [16].

A study on eczema in United Kingdom, with 25 children recruited to assess the association between trigger factors and disease flares in atopic eczema found that sweating, hot and damp weather were associated with disease flares in atopic dermatitis [17].

This study is the first of its kind in assessing the effectiveness of *Shel* with *Tshawa-suum* paste in the treatment of *Langshu* conducted in the Bhutanese Traditional Medicine system. Patients included in the study are normal day to day patients visiting the hospital and not from samples recruited through selection criteria. Therefore, the cases of *Langshu* diagnosed and treated by the *Shel* and *Tshawa-suum* reflect the real-life situation rather than experimented samples.

However, as the study coincided with the COVID-19 pandemic, there were travel restrictions that prevented a bigger sample size. Studies on skin diseases with larger sample size and longer period of time for follow-up and with controlled group is strongly recommended.

CONCLUSION

The administration of *Shel* (purgation) with *Tshawa-suum* (herbal medicine paste) resulted in the reduction of the size and severity of skin lesion in *Langshu*.

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Declarations

Ethics approval and consent to participate

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Consent for publication
Not applicable

Competing interests
None

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All public sources of data have been cited in this article.

Author contributions
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Investigation, software, validation, visualization, writing – original draft: SW

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