

Validation Study of a Psoriasis Registry Questionnaire*

Paola Andrea Lorenzo, MD¹

ABSTRACT

Introduction. Psoriasis affects 0.1-3% of the world's population. It is a chronic multifactorial disease with a genetic basis and various triggering factors. In the Philippines, extrapolated data from 2004 reveals a 2% prevalence. Thus it is important to develop a database with psoriasis patients' demographics, disease characteristics, treatment and quality of life.

Most institutions still rely on paper-based methods of recording patient data. This is prone to error and destruction. Further consolidation and analysis of this unsystematic data is problematic, making it difficult to assess real-time setbacks and develop programs.

Objective: To develop and assess the validity of a Psoriasis Questionnaire in the local setting, which will be further utilized towards developing a Psoriasis Registry. The data from this can in turn be used to generate a Psoriasis Guideline.

Methods: This is a multicenter study. The Questionnaire was developed from Psoriasis literature and worldwide registries, as well as local patient encounters. It was answered by Dermatologists and their patients. Cronbach's alpha (CA) was used to check for validity and internal consistency of the questionnaire.

Results & Conclusion: 124 questionnaires were accomplished. Each part of the questionnaire was assessed with CA. Some sections showed CA <0.70, indicating variability in the test response. To improve this, some modifications in the Questionnaire were recommended. The overall CA score however was 0.8, indicating that in totem the questionnaire is consistent and valid.

Keywords: Psoriasis Registry, Philippines, Psoriasis Questionnaire

*1st Place, 2019 Philippine Medical Association Original Research Presentation Contest, May 15, 2019

¹Resident, Victoriano Luna Medical Center, Quezon City

INTRODUCTION

Psoriasis is a universal skin disease affecting as much as 0.1-3.0% of the world's population. It is a chronic multifactorial disorder with a genetic basis, and various triggering factors¹. Patients suffer greater morbidity and mortality not only due to cutaneous manifestations but to systemic disorders as well. Augustin et al. found that metabolic syndrome was 2.9 times more frequent among patients with psoriasis², and Lee, M.S., et al. elicited that psoriasis patients had a higher risk of mortality from malignancies and circulatory system diseases as compared to the general population³. Overall, these factors may lead to significant impairment of a person's quality of life. Different treatment modalities are available for psoriasis, treatment however should be patient-specific. It is therefore important to note disease severity, co-morbidities and patient preference in selecting a treatment regimen. Tapia et al. pointed out the need for "shared decision-making" between the physician and patient in order to achieve treatment satisfaction. The study reveals that more than half of patients were "dissatisfied" with their treatment regimen, being directly related to not receiving enough options⁴.

Philippines extrapolated data from 2004 reveals a 2% prevalence of psoriasis⁵. Due to such, it is important to develop a psoriasis database containing the patients' demographics & lifestyle, disease' clinical presentation & progression, treatments, and the subsequent quality of life. Most of our health care institutions still rely on paper-based methods of recording patient data and information. This is often prone to error and destruction. Further consolidation and analysis of this unsystematic data is problematic, rendering our health-care professionals and policy makers at a disadvantage in developing the best treatment strategies and policies. Therefore the purpose of this study is to validate a questionnaire answered by dermatologists and their psoriasis patients, which may be later be used as a basis for a Psoriasis Registry in the country. Having a Philippine Psoriasis Registry will be of great value to patients, physicians, policymakers and government agencies. It may be used to further develop clinical practice guidelines for Psoriasis in the local setting and aid law-makers in building programs for this particular group. Moreover, data gathered will be

valuable in the field of research and study of Psoriasis, specifically impacting advise, management and treatment of our patients.

Methods

Trial Design

This multicenter Questionnaire validation study were filled-up by Philippine Dermatologic Society (PDS) - accredited dermatologists or supervised dermatology resident physicians, and his/her psoriasis patients. The Dermatologists and the patients who participated came from ten different government/private hospitals and private clinics⁶. Permission to conduct the questionnaire was obtained from the Chairmen of the different participating hospitals and clinics. Each participating patient and dermatologist was given an Information Sheet and Consent Form for them to sign, indicating their willingness to participate.

The Questionnaire was developed from various literature and Psoriasis registries available worldwide as well as patient encounters in the local setting. It was formulated in a clear and concise manner, that the responders will simply tick boxes corresponding to their answers. The Study Adviser, who is a Psoriasis expert further reviewed this. The questionnaire (Appendix A) consisted of five parts – 1) Informed Consent 2) Demographic Data Sheet 3) Phototyping Asian Light to Darker Brown Skin⁷ 4) Psoriasis Data Sheet and 5) Psoriasis Lesion Score.^{8, 9, 10, 11, 12, 13, 14, 15}

The questions chosen were reflective of Psoriasis particularly in people of brown skin, living in the tropics.

Participants

The study participants were required to meet all of the following inclusion criteria:

- Patient is either Male or Female, 0 years old and above, a psoriasis- diagnosed patient - clinically by a PDS accredited dermatologist or resident dermatologist, or a biopsy-proven case.

- Consent form was understood and signed by the Psoriasis diagnosed adult patient or by the legal guardian of a minor patient (less than 18 years old upon answering the questionnaire).
- The dermatologist and patient were willing to participate in the study.¹¹

The following were used as exclusion criteria for the study:

- Individual who refused to give consent for the study.

Prior to answering the questionnaires, the investigators explained to the participating dermatologists, the process of answering the questionnaire. Each section of the questionnaire was thoroughly described.

The investigators addressed all questions & problems raised by the participants via e-mail or text message.

Sample Size

Cronbach's coefficient alpha is used as a measure for validity and internal consistency of measurement instruments such as questionnaires and scales. Based from the study by Yurdugul, H. "Minimum sample size for Cronbach's Coefficient alpha: A Monte Carlo Study", it states that if the value of the first eigenvalue obtained from principal component analysis (PCA) of the sample data set is higher than 6.00, the sample for coefficient alpha, even when n=30, is an especially robust estimator of the population coefficient alpha¹⁶. For this study, the first eigenvalue is set at 7.00, therefore a minimum sample size of thirty (30 different dermatologists, with their corresponding psoriasis patients) is set.

Safety and Ethical Considerations

The study meticulously followed the ethical principles stated in the Declaration of Helsinki and the National Guidelines for Biomedical/ Behavioral Research of the National Ethics Committee (NEC) of the Philippines.

The protocol has undergone review process of the Institutional Review Board (IRB) and was approved. There were no reported disparities from the approved protocol to the Institutional Review Board.

Study subjects were given clear and complete information and instructions about the study. There were no participants who withdrew during the entire data gathering. The researchers addressed queries or clarifications made by the dermatologists or patients. Study participants did not receive any material or monetary forms of payment but were provided with high-standard individualized medical attention and treatment.

All participants who were included in the study were advised on the study protocol. The participants signed the Informed Consent Form (Appendix A), as they have understood and voiced out their willingness to join the study.

Statistical analyses

Cronbach's Alpha (CA) was used to check for internal consistency of the Questionnaire. This is a measure of the correlation between each of the questions in the domains. A Cronbach Alpha value of at least 0.70 was considered an acceptable and reliable indicator of internal consistency at the group level.

Demographic data was summarized using means and standard deviation for quantitative data such as age, and frequency and proportion for qualitative data such as gender.

Results & Discussion

A total of 124 questionnaires were accomplished from December 2017 – July 2018.

The specific parts of the questionnaire garnered CA scores as follows:

Questionnaire Domain	Cronbach's alpha
Family history	0.38
Personal and social history	0.48
Psoriasis profile	0.72
Aggravating factors	0.46
Unmet needs	0.93

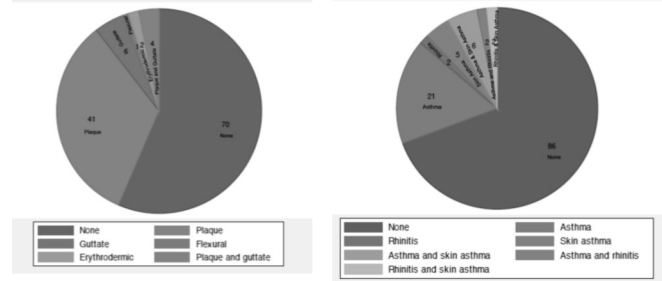
Total Questionnaire CA Overall : 0.8

As indicated by the CA scores per section, some are less than 0.70, this indicates variability in the test response, which may be due to measurement error because the number of categories per item varies, and there are some items with more than one answer. To improve the Cronbach alpha score, we may need to modify the Questionnaire choices by decreasing the number of possible answers or using a "Yes or No" answer – tick-box.

Overall however, the questionnaire garnered a Cronbach alpha score of 0.8 indicating that in totem the questionnaire is consistent and valid and may be used in a larger population to gather necessary data.

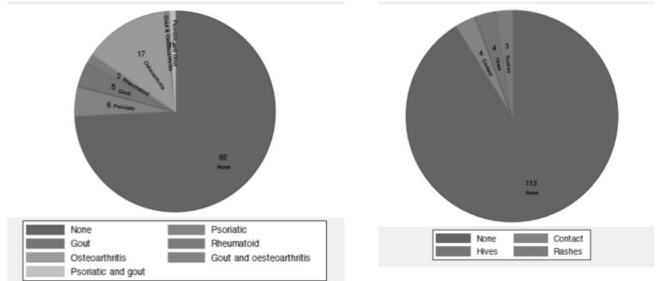
The following demographic data were gathered from our patient responders:

Most of our patients were male (51.6%), with a mean age of 43 years old (±16.87 years old), single (57.6%), of Malay ethnicity (95.1%), and of the phototype IV (66%).



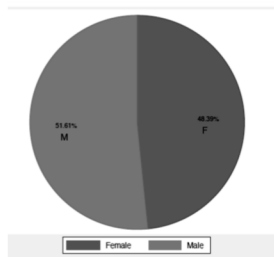
Family History of Psoriasis

Family History of Atopy

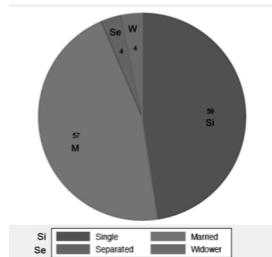


Family History of Arthritis

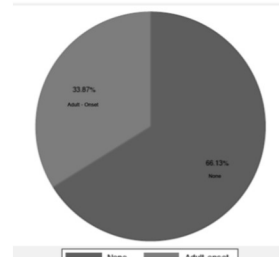
Family History of other Dermatoses



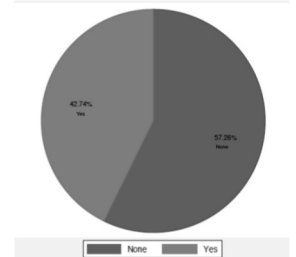
Gender



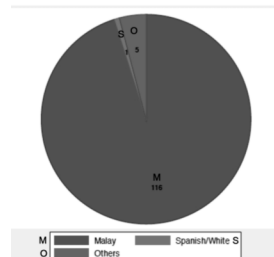
Civil Status



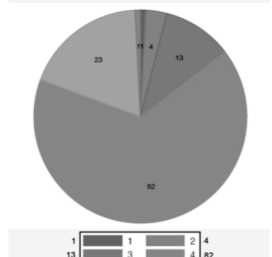
Family History of Diabetes



Family History of Hypertension

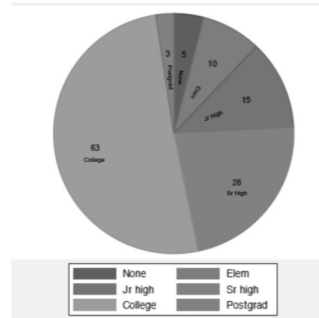


Ethnicity

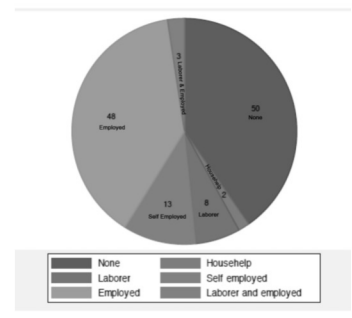


Phototype

From the Personal and Social History most of our responders where college graduates (50.8%) & employed (59.7%). Exercise (23.4%) was their most common form of physical activity

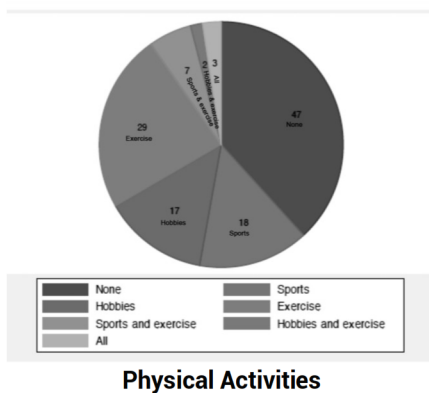


Education

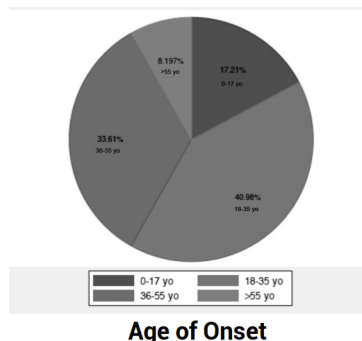


Work

From our interview of Family history, 56.5% denied a history of psoriasis, 69.4% denied that of atopy, 74.2% denied any forms of arthritis, 91.1% denied any other dermatoses, 66.1% denied a history of Diabetes and 57.3% denied Hypertension.

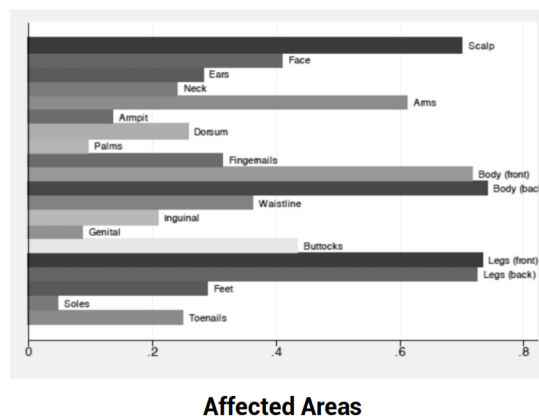
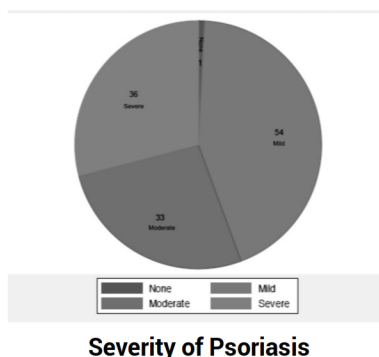


Majority of the patients recalled the age of onset of their psoriasis to be in the 18-35 year-old age-range (41.0%), and most had previous (71.5%) & current (75.6%) lesions of the plaque type.



From the Psoriasis Profile, most of the patients (43.6%) had mild involvement of the body surface area at the time of interview. Moreover we can note that most patients presented with mild erythema, induration and scaling of the head & neck, and upper & lower extremities. Exception is seen for the erythema, induration and scaling of the trunk noted to be moderate, as well as the erythema of the lower limb.

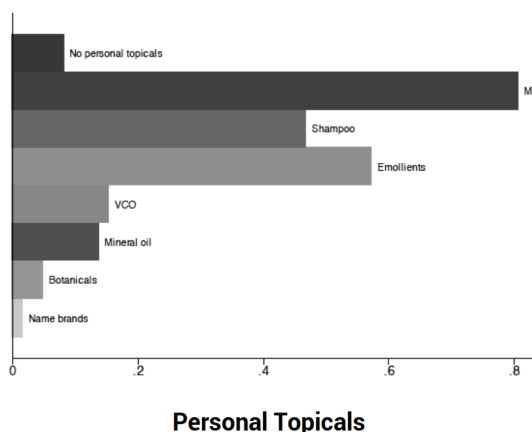
The five most common affected areas were namely the back of the trunk (74%), the front (73%) & back (73%) of the legs, the anterior trunk (72%) and the scalp (70%).

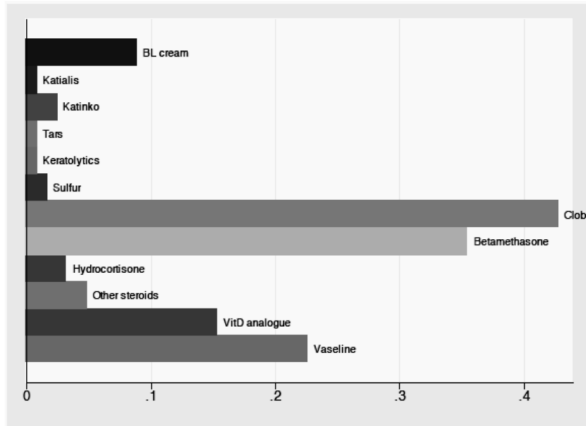


Psoriasis Lesion Score

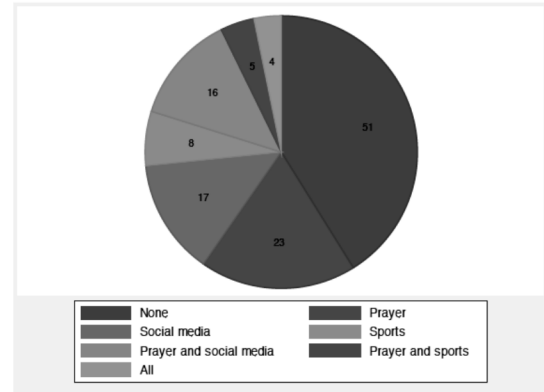
	Mean	Standard deviation	Median
Head & neck Erythema	1.11	1.09	1
Head & neck Induration	0.92	0.92	1
Head & neck Scaling	0.94	1.00	1
Upper limb Erythema	1.24	1.12	1
Upper limb Induration	1.06	0.93	1
Upper limb Scaling	1.06	1.03	1
Trunk Erythema	1.60	1.18	2
Trunk Induration	1.45	1.07	2
Trunk Scaling	1.38	1.11	1
Lower limb Erythema	1.63	1.19	2
Lower limb Induration	1.43	1.02	1
Lower limb Scaling	1.31	1.00	1

Our patients were noted to be using mild soap (81%), emollients (57%), virgin coconut oil (15%) and other botanicals (5%). Most of them reported using Clobetasol (43%) & Betamethasone (35%) as their active topicals. Some were taking oral drugs such as methotrexate (22.6%) and undergoing phototherapy (19.4%).



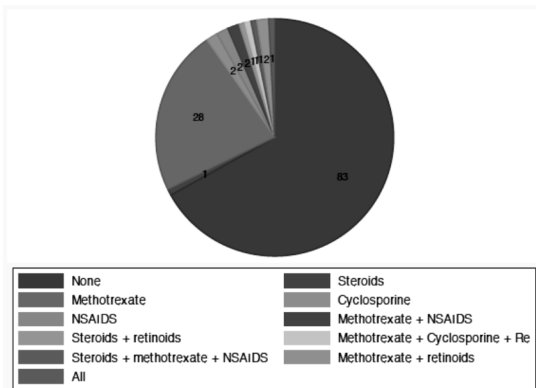


Active Topicals

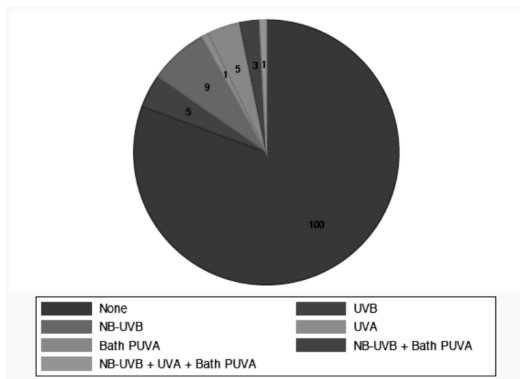


Mode of Relaxations

Only 8.9% of the interviewed patients had undergone treatment with biologics, with the most common drug used being Secukinumab (7.3%). Of these they reported clearing of the psoriasis lesions. Administration of the drug was mostly per protocol, although 1 patient reported administration upon disease relapse and 3 patients based it upon fund availability. Of those treated, relapse of lesions was most commonly noted after 1-2 months. Most patients utilized personal savings (21.0%) in funding their Biologics.



Oral Drugs



Phototherapy

Biologics	Frequency	Percent
None	113	91.13
Ustekinumab	2	1.61
Secukinumab	6	4.84
Ustekinumab + Secukinumab	3	2.42
Total	124	100

Response	Frequency	Percent
None	112	90.32
Clear/ mostly clear	11	8.87
Same	1	0.81
Total	124	100

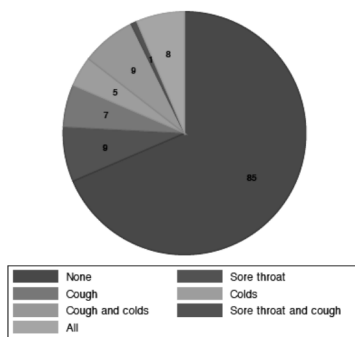
Administration	Frequency	Percent
None	104	83.87
Per protocol	16	12.90
On relapse only	1	0.81
On fund availability	3	2.42
Total	124	100

Only after	Frequency	Percent
None	109	87.90
<1 month	2	1.61
1-2 months	8	6.45
3-4 months	3	2.42
5-6 months	2	1.61
Total	124	100

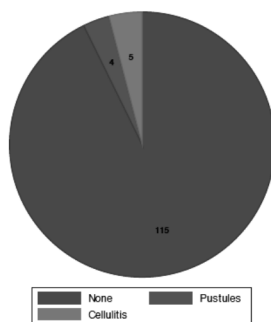
As for modes of relaxation, interviewees sought prayer/meditation (18.6%), and social media (13.7%).

Funding	Frequency	Percent
None	78	62.90
Savings	26	20.97
Donor	1	0.81
PWD	3	2.42
PCSO	2	1.61
Study	1	0.81
Others	4	3.23
Savings + PWD	2	1.61
Savings + PCSO	2	1.61
PWD + Philhealth	1	0.81
Savings + PWD + Study	1	0.81
Savings + PWD + Philhealth	1	0.81
Savings + Donor + PWD + Study	2	1.61
Total	124	100

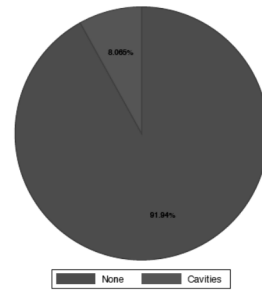
Of the perceived Psoriasis triggers, 31.45% associated a pulmonary cause to a psoriasis flare, 7.26% to a skin infection, 8.06% to dental cavities and 4.84% to urinary tract infection. This reflects our patient's understanding of their disease and what causes their "flares".



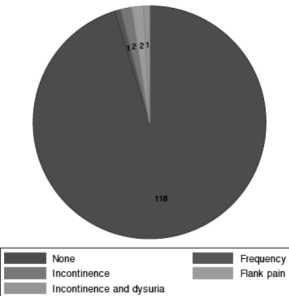
Pulmonary



Skin



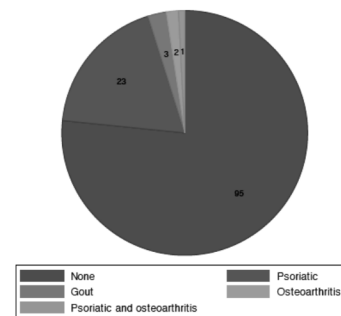
Dental



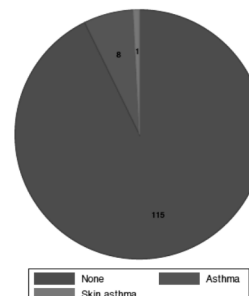
Urinary Tract

From the past medical history, 23.4% of our patients reported a concomitant psoriatic arthritis, and 7.26% had atopy. 95.97% denied other dermatoses & 98.39% denied any form of hepatitis

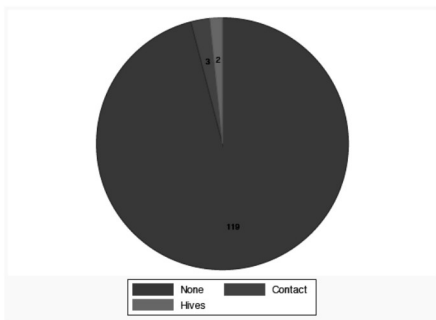
Other illnesses were as follows: 13.7% had hypertension, 6.5% were obese, 7.3% had atopy, 8.9% diabetes, 5% dyslipidemia.



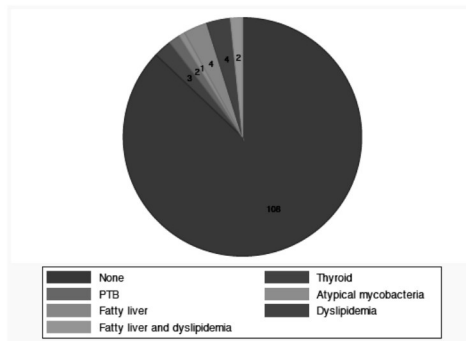
Arthritis



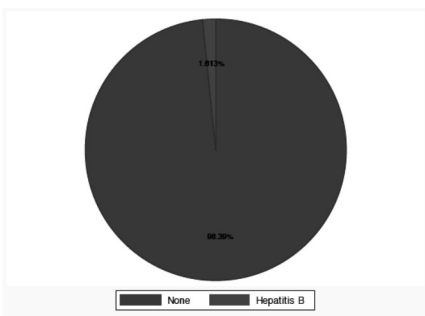
Atopy



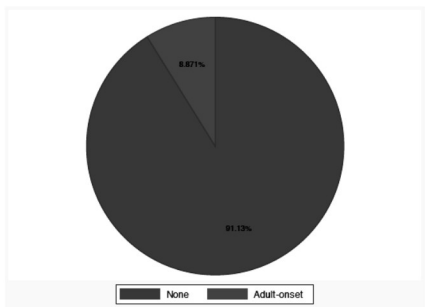
Other Dermatoses



Others

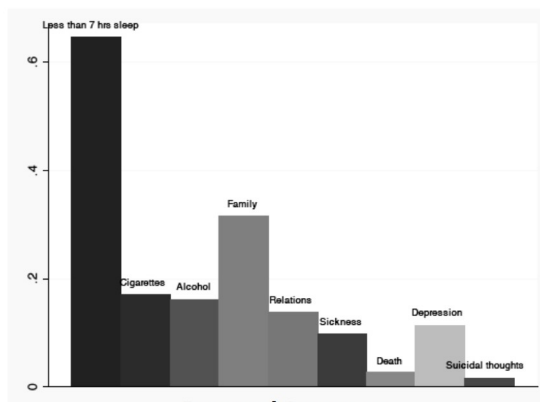


Hepatitis



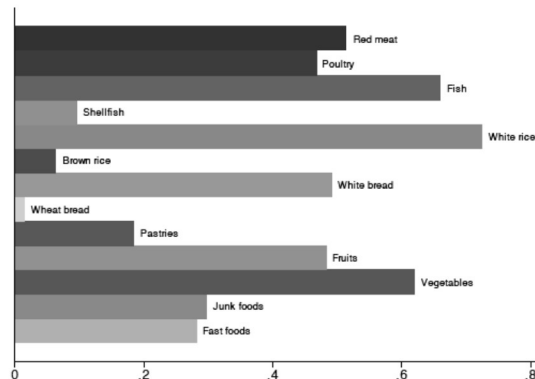
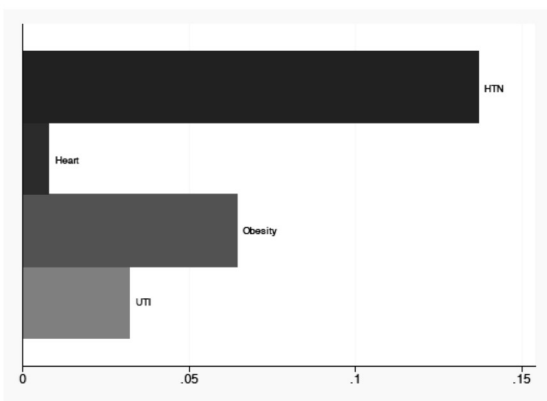
Diabetes Mellitus

Of the personal stressors, 65% pointed out lack of sleep as the most significant cause. 17% of the patients admitted to smoking cigarettes and 16% to drinking alcohol despite having psoriasis. 31% % pointed out to family problems as their cause of stress.

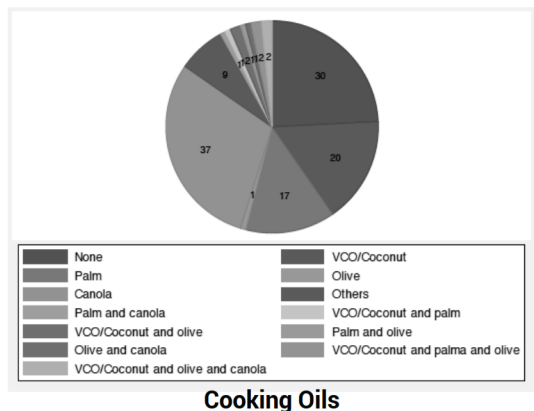


Personal Stressors

Assessing our patient's diet, we saw that majority were choosing the healthier options. More people chose to eat fish over red meat, and fruits & vegetables over pastries and junk foods. As a rice-loving country though, our patients favored white rice (73%) over brown rice (6%). As for the cooking oil, 30.0% were using canola oil, 16.1% used coconut oil and 13.7% used palm oil.



Usual Food Choices



Cooking Oils

The last part of our questionnaire tackled the unmet needs of our patients and the data is as follows: 86% were satisfied with their dermatologist based on the management, the time given to each patient, the explanation of the disease, the needed lifestyle changes and the different treatment options. 3% was not satisfied with his/her dermatologist and a remaining 11% had no comment.

As for the Rheumatologist, 82% of our patients were not seeing this type of doctor. 16% who were seeing the doctor reported to be satisfied and 5% were not satisfied.

For the Government support, most answered "None or N/A" because they were not aware of how the government was helping people with Psoriasis.

As for the distribution of the medications, 24% were happy with how the medicine was made available through their respective doctors. 27% however were not satisfied with the pharmaceutical companies due to drug cost

	N/A Frequency (%)	Satisfied Frequency (%)	Not satisfied Frequency (%)
Dermatologist			
Management	14 (11%)	107 (85%)	3 (2%)
Time spent	14 (11%)	106 (85%)	4 (3%)
Explanation	14 (11%)	107 (85%)	3 (2%)
Rheumatologist			
Management	102 (82%)	16 (13%)	6 (5%)
Time spent	102 (82%)	16 (13%)	6 (5%)
Explanation	102 (82%)	16 (13%)	6 (5%)
Government support			
Formulary	69 (56%)	27 (22%)	28 (22%)
Philhealth	77 (62%)	18 (15%)	29 (23%)
PCSO support	78 (63%)	14 (11%)	32 (26%)
MD-initiated research funds	77 (62%)	16 (13%)	31 (25%)
Distribution			
Direct to MDs only	68 (55%)	30 (24%)	26 (21%)
Instruction thorough	78 (63%)	21 (17%)	25 (20%)
Packaging secure	100 (81%)	6 (5%)	18 (14%)
Pharma Co.			
Support for research	78 (63%)	16 (13%)	30 (24%)
Decrease drug costs	80 (65%)	10 (8%)	34 (27%)

As you can see the data gathered is quite valuable as it reflects Psoriasis in Filipino skin. From this available data, we may better understand our patients and optimize their management and well-being. This may also lead to the development of different Psoriasis guidelines of care as well as Government and NGU (non-government unit) involvement programs for our patients.

Safety Considerations and Follow-up

This study is for the validation of a questionnaire on Psoriasis, which was distributed to the involved parties. A good clinical practice (GCP)-certified research staff acted as an Administrator of this study, for which patient privacy was safeguarded by assigning control numbers & securely storing pertinent information. The researchers do not foresee and found no significant adverse effects resulting from this study.

Recommendation

The Psoriasis Questionnaire was only distributed to willing participants in Metro Manila. The researchers recommend that for further studies, questionnaires will also be distributed to the different regions of the Philippines to be able to acquire a more representative population of the Filipino people.

Next, as stated above, some domains of the questionnaire have Cronbach Alpha scores of less than 0.70. Our statistician suggested that to improve CA, we need to modify the questionnaire by decreasing the number of choices and making it as objective as possible by eliciting answers such as Yes or No, by ticking a box as such:

For the Affected Areas section: Does your patient have affectation on the following areas? Please put a check if YES or NO.

Areas Affected	Yes	No
Scalp		
Face		
Ears		
Neck		
Arms		
Armpit		
Dorsum		
Palms		
Fingernails		
Body front		
Body back		
Waistline		
Inguinal		
Genital		
Buttocks		
Legs front		
Legs back		
Feet		
Soles		
Toenails		

For the Personal Topicals section: Does your patient use any of the following? Please put a check if YES or NO.

Personal Topicals	Yes	No
No personal topicals		
Mild soap		
Shampoo		
Emollients		
Virgin coconut oil		
Mineral oil		
Botanicals		
Name brands		

For the Active Topicals section: Does your patient use any of the following? Please put a check if YES or NO.

Active Topicals	Yes	No
No active topicals		
BL cream		
Katialis		
Katinko		
Tar		
Keratolytic		
Sulfur		
Clobetasol		
Betamethasone		
Hydrocortisone		
Other steroids		
Vitamin D analogues		
Vaseline/ Petroleum jelly		

For the Personal Stress section: Does your patient consider any of the following as his/her source of stress? Please put a check if YES or NO.

Personal Stress	Yes	No
Less than 7 hours sleep		
Cigarettes		
Alcohol		
Family		
Relations		
Sickness		
Death		
Depression		
Suicidal thoughts		

For the usual food choices section: Are any of the following part of your patient's usual diet? Please put a check if YES or NO.

Usual food choices	YES	NO
Red meat		
Poultry		
Fish		
Shellfish		
White rice		
Brown rice		
White bread		
Wheat bread		
Pastries		
Fruits		
Vegetables		
Junk food		
Fast food		

APPENDIX A

Informed Consent and Questionnaire Form

PSORIASIS QUESTIONNAIRE VALIDATION STUDY (PQVS)

For the Dermatologist and the Psoriasis Patient: Please read the INFORMED CONSENT FORM below and the Questionnaire Pages that follow.

For any questions, anytime, please call Dr. Paola Lorenzo @ 0917 8823531 or
Dr. VMVerallo-Rowell @ 0917 8373134 or 8112449

INFORMED CONSENT

FOR THE DERMATOLOGIST	FOR THE PATIENT
I have read the information regarding the Psoriasis Questionnaire Validation Study (PQVS) I understand the study and/or have asked questions that were answered to my satisfaction I voluntarily consent to join in the PQVS	Nabasa at naunawaan ko ang lahat ng impormasyon at/o nakapagtanong ako ukol sa mga ito at wastong nasagot. Kusang loob akong sumasali sa pag-aaral na ito. Sumasang-ayon ako na maitala ang aking mga kasagutan at kuhanan ng litrato and katawan na tanging panloob (panty & bra) lamang ang kasuotan. Binibigyan ko ng pahintulot ang mga tagapagsaliksik na gamitin ang aking mga sagot at mga litrato para sa patuloy na pagsasaliksik ng mga Manggagamot ng Pilipinas sa ikauunlad ng kaalaman patungkol sa psoriasis.

Once you both agree, both Dermatologist and Patient – please sign and date in the presence of a witness.

Dermatologist : Name in print, Sign & Date

Patient: Name in print, Sign & Date

Witness : Name in print, Sign & Date

Page 1

PSORIASIS QUESTIONNAIRE DEMOGRAPHIC DATA SHEET

ID#

Name: _____

Age: _____

Sex: Female Male

Civil Status: Single Married Separated Widow/Widower

Ethnicity: Malay

Mixed: % Spanish/White % Japanese/Chinese/Korean

% Indian % Other

COMMENTS

Place here any suggestions/comments that can further improve this Questionnaire

PHOTOTYPING ASIAN LIGHT TO DARKER BROWN SKIN

PHOTO TYPE	HISTORY		SKIN COLORS	
	Sun Burn & Tan	Pigment Darkening Change	Baseline:	Of Buttocks
		<i>Immediate</i>	<i>Persistent</i>	
	<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
I	Burn easy; Tan never	None (-)	None (-)	Ivory white
II	Burn easy; Tan hardly	Weak (±) to (± to +)	Weak (±+) to very mild	White to Yellowish White
III	Burn & Tan moderate	Definite +	Mild +	White - Light brown
IV	Burn mild Tan easy	Moderate ++	Moderate ++	Beige-olive Light Brown
V	Burn rare, Tan dark	Dark Brown +++	Dark Brown +++	Moderate Brown
VI	Burn never Tan profuse	Intense Brown ++++	Intense brown ++++	Dark Brown To Black

Source: Verallo-Rowell, V.M. (2001). *Multi-Heritage Asian-Filipino Phototypes adapted from Fitzpatrick in VMVerallo-Rowell, MD. Skin in the tropics: Sunscreens & hyperpigmentations. Anvil. Phil: 2001: 143-156*

FAMILY HISTORY	Psoriasis <input type="checkbox"/> None <input type="checkbox"/> Plaque <input type="checkbox"/> Guttate <input type="checkbox"/> Flexural <input type="checkbox"/> Erythrodermic <input type="checkbox"/> Pustular <input type="checkbox"/> Palmoplantar	Atopy <input type="checkbox"/> Asthma <input type="checkbox"/> Rhinitis <input type="checkbox"/> Skin Asthma	Arthritis <input type="checkbox"/> Psoriatic <input type="checkbox"/> Gout <input type="checkbox"/> Rheumatoid <input type="checkbox"/> Osteoarthritis	Other Dermatoses <input type="checkbox"/> None <input type="checkbox"/> Contact <input type="checkbox"/> Hives <input type="checkbox"/> Rashes <input type="checkbox"/> Blisters	Diabetes <input type="checkbox"/> None <input type="checkbox"/> Juvenile <input type="checkbox"/> Adult <input type="checkbox"/> High BP <input type="checkbox"/> None	
	PERSONAL & SOCIAL HISTORY Education <input type="checkbox"/> None <input type="checkbox"/> Elem <input type="checkbox"/> Jr High	<input type="checkbox"/> Sr High <input type="checkbox"/> College <input type="checkbox"/> MD/Masters/ PHD	Work <input type="checkbox"/> None <input type="checkbox"/> Home help <input type="checkbox"/> Laborer	<input type="checkbox"/> Self-employed <input type="checkbox"/> Employed	Physical Activities <input type="checkbox"/> None <input type="checkbox"/> Sports <input type="checkbox"/> Hobbies <input type="checkbox"/> Exercise	
PSORIASIS PROFILE	Severity <input type="checkbox"/> Mild (<5% BSA) <input type="checkbox"/> Moderate (5-10% BSA) <input type="checkbox"/> Severe (≥10%)	Age of Onset <input type="checkbox"/> 0-17 yo <input type="checkbox"/> 18-35 yo <input type="checkbox"/> 36-55 yo <input type="checkbox"/> >55 yo	Previous Lesions <input type="checkbox"/> Plaque <input type="checkbox"/> Guttate <input type="checkbox"/> Flexural <input type="checkbox"/> Erythrodermic <input type="checkbox"/> Pustular <input type="checkbox"/> Palmoplantar	Current Lesions <input type="checkbox"/> Plaque <input type="checkbox"/> Guttate <input type="checkbox"/> Flexural <input type="checkbox"/> Erythrodermic <input type="checkbox"/> Pustular <input type="checkbox"/> Palmoplantar	Affected areas <input type="checkbox"/> Scalp <input type="checkbox"/> Face <input type="checkbox"/> Ears <input type="checkbox"/> Neck <input type="checkbox"/> Arms <input type="checkbox"/> Armpits <input type="checkbox"/> Dorsum <input type="checkbox"/> Palms <input type="checkbox"/> Fingernails <input type="checkbox"/> Body front <input type="checkbox"/> Body Back <input type="checkbox"/> Waistline <input type="checkbox"/> Genitals <input type="checkbox"/> Inguinal <input type="checkbox"/> Buttocks <input type="checkbox"/> Legs back <input type="checkbox"/> Legs front <input type="checkbox"/> Feet <input type="checkbox"/> Soles <input type="checkbox"/> Toenails	
	PERSONAL & SOCIAL HISTORY Personal topicals <input type="checkbox"/> Mild soap <input type="checkbox"/> Shampoo <input type="checkbox"/> Emollients <input type="checkbox"/> Virgin coconut oil <input type="checkbox"/> Mineral oil <input type="checkbox"/> Botanicals <input type="checkbox"/> Name brands	Active topicals <input type="checkbox"/> None <input type="checkbox"/> BL cream <input type="checkbox"/> Katialis <input type="checkbox"/> Katinko <input type="checkbox"/> Tars <input type="checkbox"/> Keratolytics <input type="checkbox"/> Sulfur	<input type="checkbox"/> Clobetasol <input type="checkbox"/> Betamethasone <input type="checkbox"/> Hydrocortisone <input type="checkbox"/> Other steroids <input type="checkbox"/> Vit. D analogs <input type="checkbox"/> Vaseline	Oral Drugs <input type="checkbox"/> None <input type="checkbox"/> Steroids <input type="checkbox"/> Methotrexate <input type="checkbox"/> Cyclosporine <input type="checkbox"/> Retinoids <input type="checkbox"/> NSAIDS	Phototherapy <input type="checkbox"/> None <input type="checkbox"/> UVB <input type="checkbox"/> NB-UVB <input type="checkbox"/> UVA <input type="checkbox"/> Bath PUVA	Relaxation <input type="checkbox"/> None <input type="checkbox"/> Prayer/ meditation <input type="checkbox"/> Social media <input type="checkbox"/> Sports
PSORIASIS MANAGEMENT	BIOLOGICS <input type="checkbox"/> None <input type="checkbox"/> Etanercept <input type="checkbox"/> Infliximab <input type="checkbox"/> Ustekinumab <input type="checkbox"/> Secukinumab	Response <input type="checkbox"/> Clear/ mostly clear <input type="checkbox"/> Same <input type="checkbox"/> Worse <input type="checkbox"/> Reacted	Administration <input type="checkbox"/> Per protocol <input type="checkbox"/> On relapse only <input type="checkbox"/> On fund availability	Only after? <input type="checkbox"/> <1month <input type="checkbox"/> 1-2mos <input type="checkbox"/> 3-4mos <input type="checkbox"/> 5-6mos	<input type="checkbox"/> 7-8mos <input type="checkbox"/> 9-10mos <input type="checkbox"/> 11-12mos	Funding <input type="checkbox"/> Savings <input type="checkbox"/> Loan <input type="checkbox"/> Donor <input type="checkbox"/> PWD <input type="checkbox"/> PCSO <input type="checkbox"/> Philhealth <input type="checkbox"/> Study <input type="checkbox"/> Others

PERCEIVED TRIGGERS / AGGRAVATING FACTORS	Pulmonary <input type="checkbox"/> Sore throat <input type="checkbox"/> Cough <input type="checkbox"/> Colds	Skin <input type="checkbox"/> Boils <input type="checkbox"/> Cellulitis <input type="checkbox"/> Acneiform <input type="checkbox"/> Ulcers <input type="checkbox"/> Pustules <input type="checkbox"/> Herpes	Dental <input type="checkbox"/> Cavities <input type="checkbox"/> Gum <input type="checkbox"/> Impacted <input type="checkbox"/> Canker sores	Urinary Tract <input type="checkbox"/> Frequency <input type="checkbox"/> Incontinence <input type="checkbox"/> Flank pain <input type="checkbox"/> Dysuria		
	Atopy <input type="checkbox"/> Asthma <input type="checkbox"/> Rhinitis <input type="checkbox"/> Skin Asthma Hepatitis <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C	Arthritis <input type="checkbox"/> Psoriatic <input type="checkbox"/> Gout <input type="checkbox"/> Rheumatoid <input type="checkbox"/> Osteoarthritis	Other Dermatoses <input type="checkbox"/> Contact <input type="checkbox"/> Hives <input type="checkbox"/> Rashes <input type="checkbox"/> Blisters	Diabetes <input type="checkbox"/> Juvenile <input type="checkbox"/> Adult <input type="checkbox"/> High BP <input type="checkbox"/> Heart <input type="checkbox"/> Obesity	<input type="checkbox"/> Thyroid <input type="checkbox"/> PTB <input type="checkbox"/> Atypical mycobacteria <input type="checkbox"/> COPD <input type="checkbox"/> Obesity <input type="checkbox"/> Fatty liver <input type="checkbox"/> Dyslipidemia <input type="checkbox"/> UTI <input type="checkbox"/> Cystitis <input type="checkbox"/> Nephritis	
	Medications & Supplements (list ALL below)					
Personal stress <input type="checkbox"/> <7-8h sleep <input type="checkbox"/> Cigarettes <input type="checkbox"/> Alcohol <input type="checkbox"/> Family <input type="checkbox"/> Relations <input type="checkbox"/> Sicknes <input type="checkbox"/> Death	<input type="checkbox"/> Depression <input type="checkbox"/> Suicidal thoughts	Usual Food Choices <input type="checkbox"/> Red meat <input type="checkbox"/> Poultry <input type="checkbox"/> Fish <input type="checkbox"/> Shellfish <input type="checkbox"/> White Rice <input type="checkbox"/> Brown/Red Rice	<input type="checkbox"/> White bread <input type="checkbox"/> Wheat bread <input type="checkbox"/> Pastries <input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Junk Foods <input type="checkbox"/> Fast foods	Cooking oils: <input type="checkbox"/> VCO/ Coconut <input type="checkbox"/> Palm <input type="checkbox"/> Olive <input type="checkbox"/> Canola <input type="checkbox"/> Soybean <input type="checkbox"/> Other seed oils	Allergies <input type="checkbox"/> Food <input type="checkbox"/> Cosmetics <input type="checkbox"/> Medicine <input type="checkbox"/> Skin care <input type="checkbox"/> At Work <input type="checkbox"/> Footwear <input type="checkbox"/> At Home <input type="checkbox"/> Clothing <input type="checkbox"/> In school <input type="checkbox"/> Sports <input type="checkbox"/> At Play	
PATIENT'S UNMET NEEDS	Mark <i>v</i> if satisfied. Mark <i>X</i> if not satisfied	Dermatologist <input type="checkbox"/> Management <input type="checkbox"/> Time spent <input type="checkbox"/> Explanation	Rheumatologist <input type="checkbox"/> Management <input type="checkbox"/> Time spent <input type="checkbox"/> Explanation	Government Support <input type="checkbox"/> Formulary/ Medications <input type="checkbox"/> Philhealth (pass Bill-719) <input type="checkbox"/> > PCSO support <input type="checkbox"/> MD-initiated research funds approval	Distribution <input type="checkbox"/> Direct to MDs only <input type="checkbox"/> Instruction thorough Packaging secure if given to patient	Pharma Co. <input type="checkbox"/> Support for research <input type="checkbox"/> ↓ drug costs

Lesion severity score photos to guide you 0:Clear; 1:Mild; 2:Moderate; 3:Severe; 4:Very Severe						With an X, Tick Patient's Scores Here as noted on the left			
E : Erythema Redness		I : Induration Thickness		S : Scaling		Area	(E)	(I)	(S)
	(0)		(0)		(0)	Head	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)
	(1)		(1)		(1)	Neck	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)
	(2)		(2)		(2)	Upper Limbs	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)
	(3)		(3)		(3)	Trunk	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)
	(4)		(4)		(4)	Axilla	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)
						Groin	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)
						Lower Limbs	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)
						Butt	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)	<input type="checkbox"/> (0) <input type="checkbox"/> (1) <input type="checkbox"/> (2) <input type="checkbox"/> (3) <input type="checkbox"/> (4)

Retrieved from: https://www.pasitraining.com/calculator/step_1.php

REFERENCES

1. Goldsmith, L., Katz, S., Gilchrist, B., Paller, A., Leffell, D., Wolff, K. Fitzpatrick's Dermatology in General Medicine. New York: McGraw Hill, 2012.
2. Augustin M et al. Co-morbidity and age-related prevalence of psoriasis: Analysis of health insurance data in Germany. *Acta Derm Venereol* 90(2):147-151, 2010.
3. Lee, M.S., Yeh, Y.C., Chang, Y.T., Lai, M.S. All-cause and cause-specific mortality in patients with psoriasis in Taiwan: A nationwide population-based study. *Journal of Investigative Dermatology*, Volume 137, Issue 7, 1468 – 1473. 2017. doi: [10.1016/j.jid.2017.01.036](https://doi.org/10.1016/j.jid.2017.01.036).
4. Tapia, J.C., Chavez, K., Malaga, G., Bravo, F. Treatment satisfaction and need for shared decision-making in patients with psoriasis from Peru. *British Journal of Dermatology*, 2017. doi: [10.1111/bjd.15639](https://doi.org/10.1111/bjd.15639)
5. US Census Bureau. "Statistics by country for psoriasis". June 20, 2017. < http://www.cureresearch.com/p/psoriasis/stats-country_printer.htm
6. Nelson, P.A., Kane, K., Pearce, C.J., Bundy, C., Chisholm, A., Hilton, R., Thorneloe, R., Young, H., Griffiths, C.E., Cordingley, L. 'New to me' – changing patient understanding of psoriasis and identifying mechanisms of change: The Pso Well patient materials mixed methods feasibility study. 2017.
7. Verallo-Rowell, V.M. (2001). Multi-Heritage Asian-Filipino Phototypes adapted from Fitzpatrick in VMVerallo-Rowell, MD. *Skin in the tropics: Sunscreens & hyperpigmentations*. Anvil. Phil: 2001: 143-156
8. Norlin, J.M. P.S. Calara, U. Persson & M. Schmitt-Egenolf. Real-world outcomes in 2,646 psoriasis patients: One in five has PASI \geq 10 and/or DLQI \geq 10 under ongoing systemic therapy, *Journal of Dermatological Treatment*, 2017. doi: [10.1080/09546634.2017.1289147](https://doi.org/10.1080/09546634.2017.1289147)
9. Michalek, M., Loring, B., John, S.M., "Global report on psoriasis". Switzerland: World Health Organization, 2016.
10. Strober, B., Menter, A., Leonardi, C., Chevrier, M. Psoriasis Longitudinal Assessment and Registry (PSOLAR): Global update of a multicentre, open registry of psoriasis patients. *Journal of the American Academy of Dermatology*, Volume 70 , Issue 5 , AB180, 2017.
11. Janssen Scientific Affairs, LLC., "Psoriasis Longitudinal Assessment and Registry (PSOLAR)". *Clinical trials*. July 7, 2017. <<https://clinicaltrials.gov/ct2/show/NCT00508547>>
12. Shear, N.H., Alhusayen, R., Fernandez-Obregon, A., Kimball, A.B., Menter, A., Wu, J.J., Goyal, K., Patel, H., Lin, R., Armstrong, A.W. Observations from our evaluation of body weight changes after initiation of a biologic therapy in PSOLAR. *Journal of the European Academy of Dermatology and Venereology*. June 16, 2017. doi [10.1111/jdv.14414](https://doi.org/10.1111/jdv.14414).
13. Hernandez-Vasquez, A., Molinari, L., Larrea, N., Ciapponi, A. Psoriasis in Latin America and the Caribbean: a systematic review. *Journal of the European Academy of Dermatology and Venereology*. June 13, 2017. doi: [10.1111/jdv.14393](https://doi.org/10.1111/jdv.14393)
14. Mease, P.J., Karki, C., Palmer, J.B., Etzel, C.J., Kavanaugh, A., Ritchlin, C.T., Malley, W., Herrera, V., Tran, M., Greenberg, J.D. Clinical and Patient-reported outcomes in patients with psoriatic arthritis (PsA) by body surface area affected by psoriasis: results from the corona PsA/Spondyloarthritis Registry. *Journal of Rheumatology*. June 15, 2017. doi: [10.3899/jrh.eum.160963](https://doi.org/10.3899/jrh.eum.160963).
15. National Dermatology Registry Malaysia. "Malaysian Psoriasis Registry". August 20, 2017 <http://www.acrm.org.my/dermreg/mpr.php>
16. Yurdugul, H. (2008). Minimum Sample Size for Cronbach's Coefficient Alpha: A Monte-Carlo Study. *H. U. Journal of Education*.