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Research Article

Selection of anti-depressants in geriatric dermatoses- A questionnaire study of dermatologists in Western Rajasthan, India

Running title: Approach to psycho-pharmacotherapy for geriatric dermatoses -A questionnaire survey

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Abstract

Background: The Global Wealth Migration Review 2019 report, published by New World Wealth, estimated that 48% of India's total wealth was held by high-net worth individuals.

Distinct factors dominate the prescription of anti-depressants in the geriatric population. Accordingly, the intention of pharmacotherapy in geriatric psycho dermatoses is deciphered in the study. .

Objective: To survey and analyze the selection of anti-depressants by the dermatologists in the practice of geriatric pharmacotherapy.

Methods: A questionnaire was designed and circulated among ninety-three dermatologists in three sessions and the data collected was analyzed through the cross-sectional study statistics.

Results: The typical senior people attending the specialist were 25-50%. A sizeable familiarity of psycho cutaneous disturbance was attributed to dermatophyte infections, lichen simplex chronic, and Prurigo in descending order. The largely established primary disorder was neurotic excoriation. The prescription pattern was classified and 51.9% dermatologists are customary with psychotropic agent Doxepin over other agents. The discipline of the multidisciplinary approach was also studied.

Limitation: Small sample size, uniregional study, prevalence study.

Conclusions: The survey aids in evaluating mental health in cutaneous dermatoses of the elderly and assists the dermatologists to offer understated economical options and amend existing guidelines.

Keywords: Geriatric dermatoses; antidepressants; polypharmacy; risk-benefit analysis

Key points:

*Geriatric dermatoses are a mystery to the attending specialists who were surveyed to decipher the prescription of choice for individual dermatoses in daily practice in western Rajasthan, India.

*Understanding the geriatric dermatoses and newer management strategies is crucial to avoid unstructured polypharmacy and emphasizes risk: benefit analysis as needed.

*The data assists in the conformation of the existing approaches, thus refining the principles of geriatric pharmacotherapy in the skin.

Introduction:

Psycho-cutaneous biology is the region of dermatology that entails the intricate interactions between the skin, brain, immune system, and cutanous nerves [1]. This has expanded the responsibility of the attending specialist in sustaining the reliance of the clients. For example, a patient who cannot halt the itch-scratch cycle might lose confidence in his dermatologist, who did not foresee the coexisting psychological commotion of persistent disease.

Therefore, an expert poll was attempted in the locality of Western Rajasthan to comprehend the preference pattern of anti-psychiatric drugs in the common skin disorders of elderly The results retrieved will be extrapolated to understand the current structure of therapy.

Aim:

* To understand the psychopharmacology for dermatoses of the elderly.

* To survey the preferences and alternatives of anti-psychiatric drugs by practicing Dermatologists

* To analyze the intention behind the chosen drug and to correlate with the existing policies.

Materials and methods:

The study began after ethical authorization to devise a questionnaire on anti-psychiatric agents needed in psycho-cutaneous disorders based on the existing literature. The questionnaire comprised 16 queries including the geriatric population, disease, chronicity, and preferred agent, the rationale for the options, unfavorable effects, and cure. The study group included ninety-three dermatologists working in various government colleges, private practitioners, final-year residents, and senior residents from all hospitals in Western Rajasthan. Various means were used to approach the doctors all of which were manual in a hard copy format. An appropriate elaboration was delivered before the study and written consent was obtained before participation. The study was conducted between August and September 2019.The data was collected and compiled for analysis. The results are as follows.

Results:

The all-around respondents were 90.3% (n=84), of which 3.5% did not practice psycho-pharmacotherapy.

Type of population:

The standard day-to-day geriatric outpatient attendance was documented to be around 25-50%. Thirty-seven percent of dermatologists claim that maximum clients used to complain about a secondary psychiatric illness and 23.5% specialists met patients with mutually dependent psychiatric and dermatologic illnesses.

Type of diseases:

The frequency prevalence of the common psycho-physiologic dermatomes experienced every day is illustrated in Figure 1, with descending frequency from dermatophyte infections (45.7% ;n=37), Lichen simplex chronicus (22.2%; n=18), Prurigo nodularis (18.5%; n=15), Urticaria (11.1%; n=9) and Psoriasis (4.9%; n=4).The primary psychiatric disorder dealt in descending commonness were neurotic excoriation (76.5%, n=62), fictitious dermatitis (14.8%; n=12), Delusional parasitosis (7.4%; n=6) and Trichitillomania (1.3%). They alleged secondary psychiatric diseases to originate from Obesity (28.4%; n=23), Androgenetic alopecia (27.2%; n=22), Acne scars (18.5%; n=15), Vitiligo (17.3%; n=14), Alopecia areata (4.9%; n=4), Keloids (2.5%; n=2) and post-burn scars (1.2%; n=1). Last, the sensory disorders acknowledged were Itching (100%; n=81), burning (63%; n=51) and both (37%; n=30).

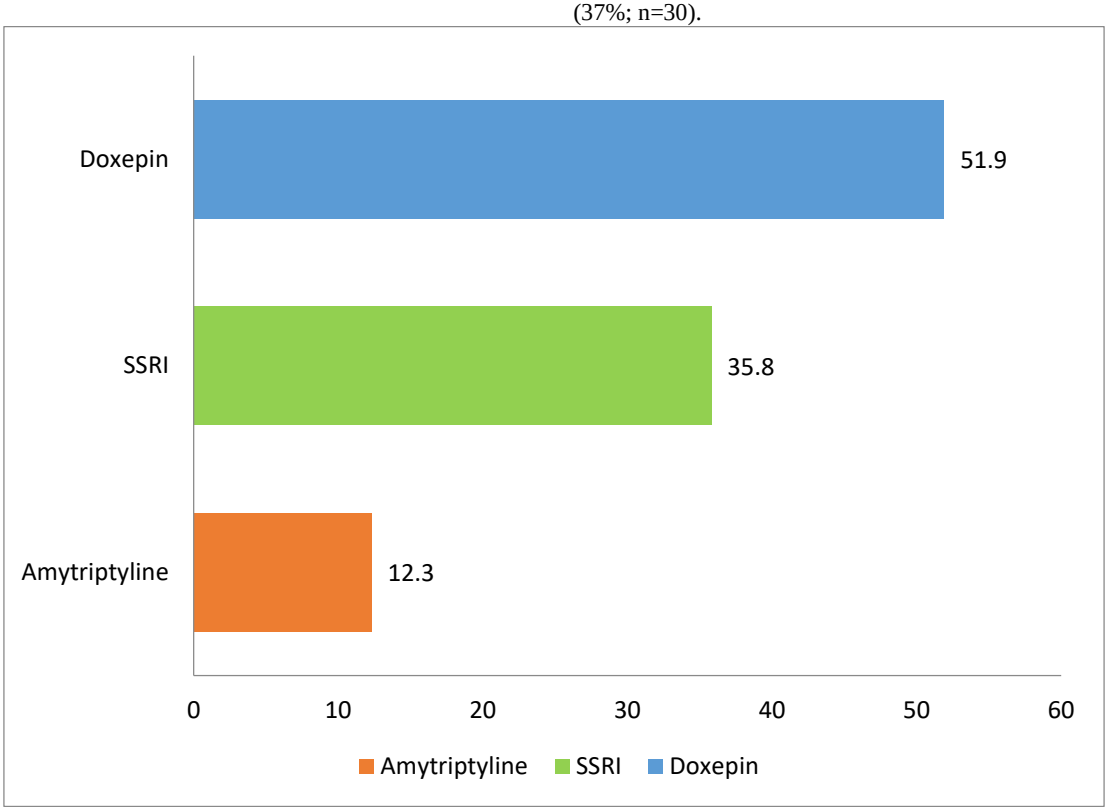

Figure1: *"Survey of Selection of Antidepressants by Dermatologists revealing the percentage of selected antidepressants and psychotropic agents in geriatric dermatoses for various indications."*

Abbreviations: *SSRI- selective serotonin reuptake inhibitors*

Choices of anti-depressants (Figure 2): The prescribed psychotropic agent was Doxepin (TCA) as proclaimed by 51.9% dermatologists (n=42). SSRI (35.8%; n=29) and Amitriptyline (12.3%; n=10) were determined as an appropriate agent by distinct groups.

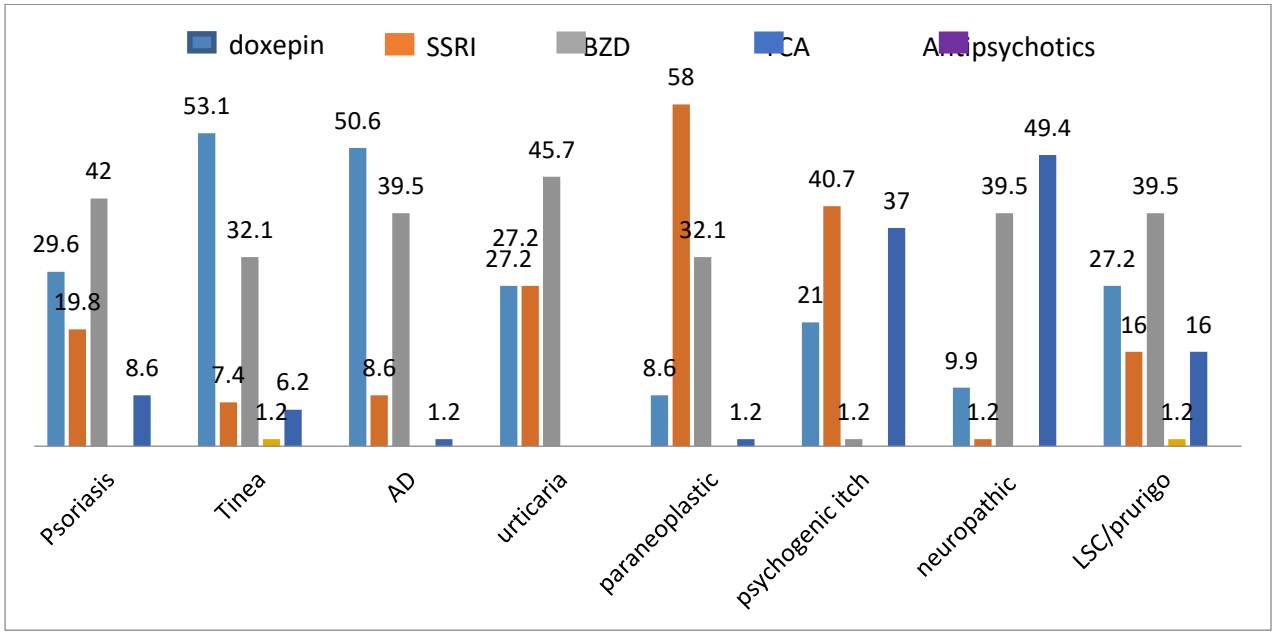

Figure2: "*Selected first and second-line agents deciphered from the plot of specific agents prescribed by study participants against specific geriatric dermatoses.*

Abbreviations: AD- atopic dermatitis; BZD- benzodiazepine; LSC- lichen simplex chronic us; TCA- tricyclic antidepressants; SSRI- selective serotonin reuptake inhibitors

Distinctive inimical outcomes:

Familiar tricyclic antidepressant among study group was Doxepin (51.9%; n=42), nominated for Psychogenic prorates (85.2%; n=69) than depression (14.8%; n=12). Aftermaths are depicted in Table 3 with sedation (85.2%) and abdominal complaints (14.8%). The non-psychotropic antidepressant was inferred as being Amitriptyline (50.6%; n=41) and indicated for secondary depression (46.9%; n=38) and their adverse effects are tabulated in table 3.

Commonest SSRI was fluoxetine (56.8%; n=46) > paroxetine (28.4%; n=23) used in secondary depression (60.5%; n=49). We divulge the conclusions on Figure 1 and 2.

Multi-disciplinary attitude: Dermatologists who preferred to suggest the client to a psychiatrist at the initial visit were 86.4% (n=70).

	Sedation	Addiction	Discontinuation symptoms	seizure	Anorexia/Bulimia	Sexual dysfunction	Cardiac side effects	Insomnia	EPS	Abdominal complaints
Doxepin	85.2%; (n=69)									14.8%; (n=12)
BZD	66.7%; (n=54)	67.9%; (n=55)								
TCA			18.5%; (n=15)		16% ; (n=13)		32.1%; (n=26)			6.2% (n=5)
SSRI						33.3%; (n=27)		29.6%; (n=24)		9.9%; (n=8)
Anti-psychotics	66.7%; (n=54)					14.8%; (n=12)	29.6%; (n=24)		18.5 %; (n= 15)	
Venlafaxine										
bupropion								18.5%; (n=15)		

Discussions:

The proficiency of fundamental psycho-cutaneous disorders is decisive in practice. We can categorize these as,

Psycho-dermatological disorders: [4]

1. Psycho-physiologic skin diseases like psoriasis, LSC, Hyperhidrosis that contributes to stigma and stress

2. Primary psychiatric disorders like Neurotic excoriations, delusions, fictitious dermatitis, Trichotillomania, etc.

3. Secondary psychiatric disorders like vitiligo, alopecia areata, obesity, androgenetic alopecia which are induced because of stress

4. Cutaneous sensory disorders like burning and crawling.

Psychopathology conditions- anxiety, depression, Obsession & compulsive disorder, Psychoses should be primarily managed by a psychiatrist and might often exclusively need dermatological assistance [4]

Standard regimens and their known adverse reactions are provided in Table 1. It illustrates the therapeutic ladders for specific conditions in Table 2 [3 4].

Category	Names	Dose	Indication	Comments
SSRI	Paroxetine	10-60 mg/d	Depression/OCD/PTSD/Panic/G	EPS/Withdrawal
	Fluoxetine	20-60 mg/d	AD	
	Sertraline	50-200 mg/d	Depression/OCD/BDD/Bulimia	
	Citalopram	10-40 mg/d	Depression/OCD/PTSD/Panic	Prolongs QT
	Escitalopram	5-20 mg/d	Depression/ Panic	Prolongs QT
	Fluvoxamine	50-300 mg/d	Depression/ Panic/GAD	
	Duloxetine	30-120 mg/d	Depression/OCD	
	Mirtazepine	15-45 mg/d	Depression/GAD	Sexual dysfunction
	Venlafaxine	37.5-225 mg/d	Depression	BP monitor
			Depression/ GAD	
TCA	Amytryptiline	10-200 mg/d	Depression /Neuropathic pain	Cardiotoxic drugs all
	Clomipramine	10-250 mg/d	Depression/Phobia/obsession	except lofepramine
	Dosulepin	75-225 mg/d	Depression	
	Imipramine	75-300 mg/d	Depression	
	Lofepramine	140-210 mg/d	Depression	
	Nortriptyline	10-150 mg/d	Depression/Neuropathic pain	
	Trimipramine	150-300 mg/d	Depression	
SNRI	Bupropion	150-300mg/d	Depression	
	Venlafaxine			
	Duloxetine			
	Rebexetine			
	Mirtazapine			
Antipsychotics				
First-	Chlorpromazine		Delirium in elderly	Qt prolongation and
	Haloperidol			cardiac effects
	Sulpiride			
	Pimozide			
Second	Amisulpiride	400-1200 mg/d	Psychoses	Prolactenemia
	Aripiprazole	10-30 mg/d		Nausea
	Quetiapine	5-20 mg/d		Weight gain
	Olanzepine	25-800mg/d		Lesser TIA
	Risperidone	2-16 mg/d		Avoid in elderly
Anxiolytics	Benzodiazepines			Dependence
	Buspirone			
	Beta blocker			
	SSRI			
Mood stabilizers	Pregabalin			
	Gabapentin			
	Lithium			
Referral to psychiatrist	First line for primary psychiatric disorders	Aid in secondary psychiatric illness		

Adapted from Wolverton's comprehensive drug therapies, third edition.

Table 1: *Common agents and side effects*

Diseases	Subtypes	Drugs used
1. Chronic pruritis 2. Prurigo nodularis 3. Lichen simplex chronicus	• Dermatological – Atopic eczema, urticaria, psoriasis,etc • Paraneoplastic pruritis • Senile pruritis • Neuropathic pruritis (nostalgia, BRP,Etc) • Psychogenic pruritis	SSRI/Benzodiazepines/ TCA and Doxepin TCA>SSRI
Mucocutaneous pain syndromes:	1. Post-herpetic neuralgia 2. Trigeminal neuralgia 3. Burning mouth, vulvo-scroto-penodynia 4. Chronic scalp pain 5. Erythromelalgia	SSRI SSRI/TCA BZD/SSRI/TCA SSRI/TCA
1. Obsessive and compulsive disorders 2. Eating disorders 3. Factitious skin disease 4. Self harm 5. Delusions(infestation /olfaction)	• Body dysmorhic disorder • LSC and pruprigo • Skin picking/ acne excoriee/ tricho and onychoitillomania	Refer to psychiatrist SSRI>Antipsychotics Refer/SSRI/TCA Refer Refer Refer Refer/Antipsychotics>SSRI =TCA
Depression Anxiety Psychoses		Refer>SSRI and TCA Refer>SSRI and BZD Refer> Antipsychotics

As adapted from Rooks textbook of Dermatology, ninth edition

Table 2: *common disorders and line of management*

Geriatric dermatoses are the dermatoses of the aged (> or equal to 60 years of age). Yosipovitch et al., discriminated neuropathic itch from psychogenic itch which is defined as "an itching disorder where the itch is at the center of the symptomatology and where psychological factors show an obvious role in the provoking or persistence of the pruritus" [7, 11] from the survey, the structure of popular geriatric dermatoses and the established agents used by dermatologists of the locality of Western Rajasthan are analyzed and we decipher the outcomes. The customary size of the geriatric population witnessed existed from 25% to 50% which compels a promising awareness on the management of the elderly. Over 60.5% of old people attending the skin clinic might require an appropriate exam of mental health as described by Capoore and workers [1].

Commonest psycho-physiologic diseases of this era were Dermatophyte infections identified before Lichen simplex chronicus, Prurigo, Urticaria, and psoriasis. Patrol and panda deduced that dermatophyte infections move beyond its territory as investigators anticipate fungal infections as a menace to the psychological fitness of the patients [9]. Tinea is one of the most common infections experienced in our dermatological practice. Wine et al., in his study, remarks the necessity to appreciate the pattern of disease for realistic reasons [3]. For instance, the continual despair of everyday life in developing countries might be causal in impeding the recovery in an elderly man with tinea cruris, who labor in sweltering environments.

Park et al., ascribed a tool of analyses on geriatric depression and these patients should be referred to a psychiatrist after receiving the history, evaluating the co-morbidities, and gauging the emotional state based on subjective judgments [8]. Patient displaying insignificant, subsyndromal or atypical traits are extensively under-diagnosed in preliminary visits [10]. Hence, a satisfying "itch remedy" can mean a deep sense in practice. Now that a wholesome business has sprouted from the existing deadlock to determine the standard agent, the management with several over-the-counter products has led to abominable effects which is an emerging catastrophe.

The quest is to learn the idealistic parameters for an agent that is safe and psychotropic, but there is none. The patient's dependability on the drugs is greater than the doctor's. Thus, the agent should ease itch or provide faster clearance rates. Thus for empirical reasons, dermatologists imply in amending the textbook management for Dermatophyte using agents such as Doxepin as it is claimed to curtail the monetary and systemic burden of anti-fungal agents besides ameliorating the symptoms [1]

Some disorders are causal to the clients' altered psyche such as Psoriasis and some are triggered e.g., Lichen simplex and Prurigo, which are familiar as age advances. Adding an SSRI (35.8%) or Doxepin (51.9%) is offered as a competent accessory [3]. the largely seen primary psycho-cutaneous disorders were neurotic excoriations (76.5% answers). The survey of antidepressants desirable to this section was SSRI (39.5%) and TCA (49.4%) but primary psychiatric illness should be referred to a psychiatrist who can benefit the patient. A pointer here is to treat the skin and refer. TCA like Amitriptyline was selected despite their speculative hazard of cardiotoxicity, reasoning that these agents are safe in practice and the probability for such consequences is diminutive (32.1% answers). Hence it is relatively a risk: benefit setting according to the pharmacological practice by Lee and his workers [5]. While the comparable safety of Fluoxetine is better than TCA, fluoxetine 20mg is determined all-around as an ideal agent (35.8%) only second to Doxepin [6].

Cases of fictitious dermatitis and Trichitillomania should also be suitably referred to Psychiatrist (86.4%). Stress donates to common secondary psycho-dermatoses like Obesity, Androgenetic alopecia, and Alopecia areata. The psychopharmacologic therapy documented by Gupta et al., indicates that adding an SSRI is not a profitable option for obesity as weight gain is overseen. Thus, suggesting to a psychiatrist who might start

them on drugs like Bupropion sounds appropriate [6]. Adding a BZD or SSRI is an intriguing alternative for the rest of the illnesses [5, 7] The common antidepressants used as a psychotropic agent was Doxepin, while Benzodiazepine in Urticaria, Prurigo, and lichen simplex chronicus, SSRI in Psychogenic itch, and Amitriptyline in neuropathic itch were preferred. This also corresponds to literature.

Psychogenic itch is diagnosed after eliminating other factors of itching. For this, Co-morbidities and systemic causes should be evaluated after history and exam as discussed by Tactic and his colleagues [10]. This is crucial because diseases such as cutaneous T cell lymphoma in its premalignant stage can drive refractory prorates hence require an ethical evaluation. It was observed that Dermatologists (86.4%) are inclined to multidisciplinary referrals as and when necessary or sometimes mandatory i.e., while starting the drug while tapering and while withdrawal.

Limitation of the study:

Small sample size, Uni-regional census, and prevalence study. This has to be expanded nationwide and transnational for farther awareness of prescription used around the globe. The study was a cross-sectional survey of current trends. This can be further experimented by providing a pre and postscholastic questionnaire to improve the prevailing trends and discern the readiness and aptitude of dermatologists.

Conclusion:

The information on the structure of geriatric dermatoses and the selection of antidepressants/ psychotropic agents preferred by dermatologists is intensified in this study. There is no systematic review on this subject which broadens prospectively. This analysis also enhances the subsisting information in the practice of safer psychotropic agents and antidepressants. It comprehends the proper rationale for usage and insists on the importance of history taking, exam, investigation, and asking for help as the four cornerstones of Hippocratic practice. Similarly, psychiatrists' hand in dealing with geriatric dermatoses is mandatory while following up and during withdrawal.

1. The primary outcome of the study is restricted to the patterns of disease and the preferred line of management

2. The secondary outcome measures were to find out the rationale behind the choice of agent. E.g., Doxepin had overall been mostly used along with SSRI (fluoxetine) and Amitriptyline hence are idealistic additional agents in prescription.

Acronyms:

BDD- body dysmorphic disorder

BZD- benzodiazepines

EPS- extrapyramidal symptoms

GAD- generalized anxiety disorder

OCD – obsessive-compulsive disorder

PTSD- post-traumatic stress disorder

QT – wave in ECG

SSRI- selective serotonin reuptake inhibitors

TIA transient ischemic attack

TCA- tricyclic antidepressants

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