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ASSESSMENT OF AWARENESS OF DEPRESCRIBING AMONGST DOCTORS OF A TERTIARY CARE HOSPITAL

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Keywords:

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ABSTRACT: Introduction: Deprescribing is an essential pillar in rational prescribing with literature citing a reduction in the number of drugs consumed, mortality and reducing referrals requiring emergency care by more than half, while also slashing healthcare cost. Deprescribing is a developing field with a steep learning curve due to prevalence of multiple prescribing sources (Ayurveda) and there is no consensus on how to exploit different approaches. Thus, the current prescribing pattern remains heavily influenced by the medical practitioner bias. Advantages of reducing polypharmacy have been well established by literature in the past few decades; more efficacious studies including randomized clinical trials need to be conducted to determine the effectiveness of deprescribing in the Indian clinical scenario. **Aims and Objectives:** This study is conducted to assess the prevalence of deprescription in India. **Material and Methods:** A validated instrument 'Perceptions, Attitudes and Challenges of Physicians towards Deprescribing' was used for this study. An electronic 20-question survey regarding the prevalence of deprescription was administered to doctors who prescribed on a daily basis in Amritsar Punjab, India. **Results:** A total of 154 medical practitioners responded to the emailed links. Responses were variable and 40.6% of prescribers were not aware of the concept. **Conclusion:** In our opinion, the concept of deprescription holds significance in all segments of an individual's healthcare. Not only does it play a sentinel role by preventing ADR related hospitalisations but it also protects against any inappropriate medications.

INTRODUCTION: Deprescribing, the cornerstone of appropriate prescribing practices is the methodical evaluation, dosage reduction, or total discontinuation of medications meant for long-term use after a risk-benefit analysis keeping patient's quality of life and financial situation into account.

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Deprescribing is a crucial part of the significant problems of polypharmacy and drug cascade. Depresciption has been compared to the process of 'pruning' a prescription. It entails rating and allocating the prescribed medications on a spectrum from high-risk low-benefit drugs to high-benefit low-risk drugs, presuming that there is no overlap among drugs in the same classes.

Following this, the drugs at the risky end are deemed low-utility and are obliterated, while the ones on the opposite side are retained. This in turn can have drastic effects on co-morbidities and patient compliance [1].

Recent literature has cited its multiple advantages including combating polypharmacy, legacy prescribing and prescribing cascades via the single prescribing attitude. Prescribing cascades occur when an adverse drug effect is misinterpreted as a new medical condition, resulting in the prescription of a potentially unnecessary drug to treat this new condition [2-4]. In a long term view, deprescribing will also improve drug compliance and quality of care amongst patients as they will be more likely to follow the regimen when it is less complex [5].

It is important to clarify that just as with initiating a medicine, deprescribing is unique in every situation, as people on identical medicines with the same co-morbidities will be influenced by differing genetics and experiences [6].

While several studies have reported on general indications, enabling factors and obstacles to deprescribing, medical practitioners are still unaware of the true scope of deprescribing. They are only referring to discontinuation of no longer indicated medication and tapering a drug. The purpose of this study was to investigate prescribers understanding of deprescribing and their inclination to embrace the idea with an overall goal to evaluate the prevalence of the deprescription phenomenon.

MATERIAL AND METHODS: After seeking ethical clearance for the study from institutional ethics committee vide approval no. GMC/IEC/21/IPK/28, we proceeded to conduct a pilot study physically on ground and a larger scale study virtually. A validated instrument 'Perceptions, Attitudes and Challenges of Physicians towards Deprescribing'[7] was used for this study. An electronic 20-question survey regarding the prevalence of deprescription was administered to doctors in Amritsar who prescribed on a daily basis. Participants were recruited through email invitation and the responses were collected and described qualitatively with percentages.

RESULTS: A total of 154 medical practitioners responded to the emailed links. With regard to the designation of the answering participant, 77 (50%) were non-teaching medical practitioners **Fig. 1** whilst the remaining were either enrolled as teaching faculty or currently under training as residents.

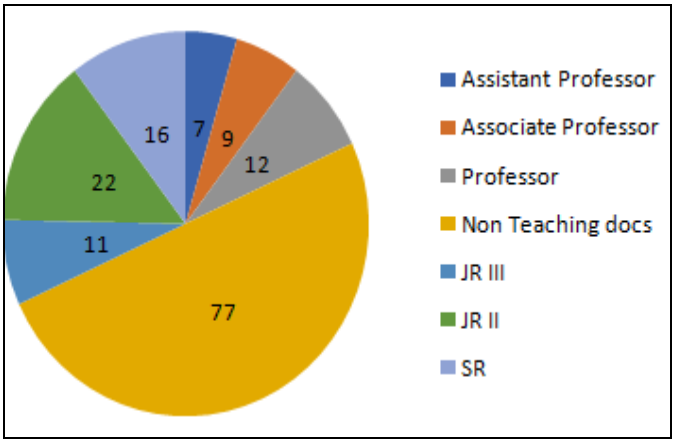

FIG. 1: MEDICAL PRACTITIONER DEMOGRAPHICS

Prevalence of knowledge of Deprescribing: Among the 50.7% who reported being aware of the term deprescribing, 30.8% claimed deriving this knowledge from journals and 29.7% from conferences they had attended in the past. Degree curriculum was the least popularly cited source with only 12 (13.2%) responses.

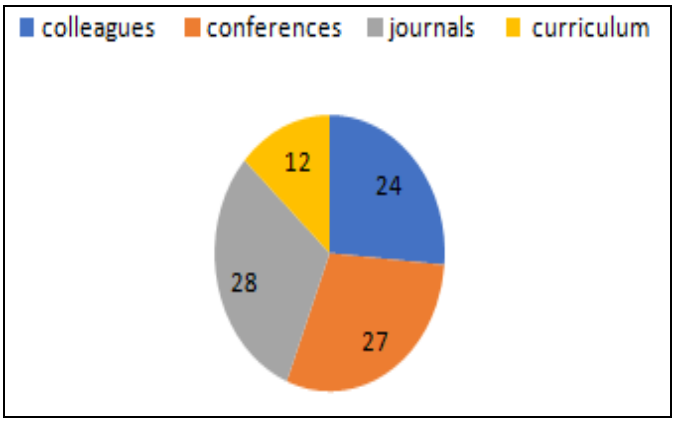

FIG. 2: SOURCE OF KNOWLEDGE ABOUT DEPRESCRIBING

TABLE 1: PREVALENCE OF KNOWLEDGE OF DEPRESCRIBING

Question asked	Options	Choice of respondents n (%) (N=78)
According to you, what all does the term include? (you may choose multiple options)	Reduction of prescribed dosage	57 (73)
	Eventual cessation of drug intake which was intended for immediate treatment	57 (73)
	De-escalation of the drug	36 (46.15)
	Switching out of drug for alternative in case of ADR	32 (41)
	Identification and removal of prescription in case of PIP (potentially inappropriate prescribing)	37 (47.4)

The respondents who replied in the affirmative regarding previously knowing of the concept were then asked what they considered deprescription to be defined as. The results were quite variable. The most popular answer was reduction of prescribed dosage and eventual cessation of drug intake intended for immediate use (55.13%) followed by a combination of 2nd and 3rd options (34.6%).

None (0%) of the respondents chose a combination of all options except the eventual cessation of drug intake or a combination of reduction of prescribed dosage and identification of removal of prescribed drugs in case of PIPs.

Combinations of the 1st, 3rd and 4th options (1.28%) and only the 1st and 4th options (2.56%) also proved to be less popular. **Table 1** gives a brief representation of the presented data. The medical practitioners were then asked about their opinion regarding the prevalence of the topic, to which a resounding 94.2% declared that they believed there exist a lack of awareness of the concept in the Indian medical society.

Attitude towards Deprescribing and Focus Groups: The respondents were asked their opinion on the effect of deprescription in a clinical setting in the current clinical scenario. Majority of them chose to agree with the options pointing to a positive effect of deprescription in the current clinical scenario.

When asked which age group the respondents preferred to deprescribe in, all age groups were reported as being just as important for deprescription review. Further when asked for their views on including deprescribing a part of their daily practice, 81.1% (53.9%+14.9%) replied in the affirmative.

TABLE 2: GIVES A BRIEF OVERVIEW OF THESE DATA

Question asked	Options	Choice of respondents n (%) (N=150)
"Deprescribing is beneficial in the current clinical scenario"	Strongly agree	50 (32.5)
	Agree	76 (49.4)
	Neutral	25 (16.2)
	Disagree	3 (1.9)
	Strongly disagree	0 (0)
According to you, what is the preferred age for deprescribing?	All	89 (57.8)
	Paediatrics	4 (2.6)
	Adults	24 (15.6)
	Geriatrics	27 (17.5)
	None	10 (6.5)
What are your views on making deprescribing a point in daily practice?	Strongly agree	43 (27.9)
	Agree	83 (53.9)
	Neutral	23 (14.9)
	Disagree	4 (2.6)
	Strongly disagree	1(0.6)

Positivity towards Deprescription: (By those who didn't know of the term before)**.** Out of the respondents who replied in the negative towards already knowing of the concept of deprescribing, on a scale of 1 to 5, 30 respondents (39.47%) reported a 4 and 15 (19.73%) chose 5 while 27 (35.53%) chose a neutral 3 and 3 (3.97%) chose a 2 while one respondent (1.31%) chose a 1. With regards to specific deprescribing tools used by the Indian medical practitioners, 36% medical practitioners reported following either the Screening tool of older persons' prescriptions and screening tool to alert to right treatment or the American Geriatric Society's Beers criteria. 63% participants reported their current usage of personal judgement for deprescribing rather than these criteria. Further when asked, a total of 82% participants expressed being amenable to following a set criteria while the remaining were of the opposite view.

Indications for Deprescribing and Enabling Factors: Most respondents (N=150; 79.2%) were of the opinion that the biggest reason to deprescribe stands to reduce harm to the patient via adverse reactions due to conflicting or chronical usage of medications; the second most popular reason was following the latest guidelines, in the event of the medication not being indicated (53.9%). When asked what they think would enable their deprescribing habits, 97 (63%) participants

believed that training on deprescribing specific medications and 72 (46.8%) stated having a strong departmental focus on the same would be favourable. The respondents were also asked to report their preference in drugs for deprescribing.

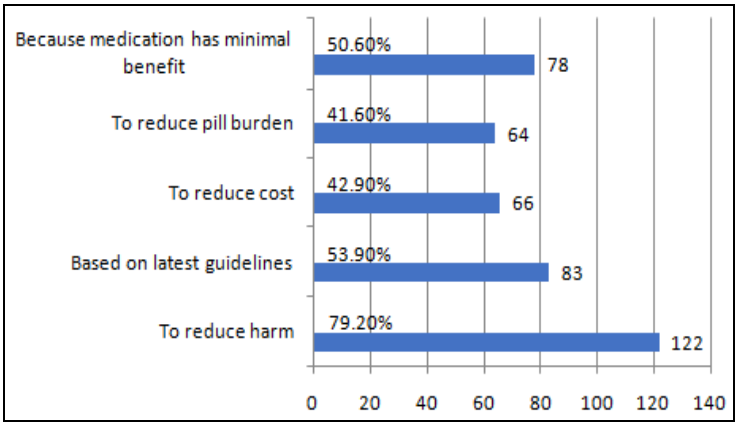

FIG. 3: REPRESENTS THE REASONS FOR DEPRESCRIBING

TABLE 3: PROVIDES AN IN-DEPTH REPRESENTATION OF THE ANSWERS RECEIVED FOR THE PREFERRED DRUGS FOR DEPRESCRIBING

Question asked	Options	Choice of respondents n (%) (N=78)
Preferred drugs for deprescribing (you may choose multiple options)	Benzodiazepines	98 (63.6%)
	Antidepressant drugs	71 (46.1%)
	Antipsychotic drugs	55 (35.7%)
	Anticonvulsant drugs	38 (24.7%)
	Analgesics	88 (57.1%)
	Steroids	108 (70.1%)
	Glucocorticoids,	69 (44.8%)
	Diuretics	17 (11%)
	Antiplatelet drugs	26 (16.9%)
	Antihypertensive drugs	87 (56.5%)
	Antibiotics	78 (50.6%)
	Opioids	68 (44.2%)
	Proton pump inhibitors	15 (9.7%)
	Anti-arrhythmic drugs	21 (13.6%)
	Choline esterase inhibitors	23 (14.9%)
	Bisphosphonates	28 (18.2%)
	Statins	27 (17.5%)
	Bronchodilators	66 (42.9%)
	Vitamins/supplements	88 (57.1%)
	Based on patient profile count	98 (63.6%)

Barriers to Deprescribing: The Indian medical practitioners were then given a list of possible barriers they might face while deprescribing and asked to choose the applicable ones according to them. Their response were as follows: 54.3% chose being unsure of the rationale behind a previously prescribed medication by a different medical practitioner [8] whilst 52.9% chose being concerned about the adverse events that might follow post deprescribing. 41.6% chose a lack of benefit/risk information about deprescribing. Only 20.8% reported 'Damaging relationship with original doctor who prescribed medication' as a barrier. Subsequently, when asked in a different question if the respondents experienced hesitation in deprescribing medications prescribed by other doctors, 64.3% reported in the negative.

DISCUSSION: Deprescribing is the systematic dose reduction, complete cessation or substitution of drugs following a risk-benefit analysis whilst remaining in congruence with the patient's quality of life, behavioural and economic circumstances. It has also been referred to as the "prescription metabolism". Deprescribing has already proved to be an essential pillar in rational prescribing with literature citing a reduction in the number of drugs consumed by more than half, reduction in mortality

by up to 50% and reducing referrals requiring emergency care by more than half while also slashing healthcare cost with improvement in healthy by more than 90% [11]. Deprescribing also tackles phenomenon like legacy prescribing and prescribing cascades head on. Potentially inappropriate medications in itself are medications where the risks overweigh the benefits to the patient and may progress into ADRs irrespective of other confounding factors [12]. Deprescription is poorly demarcated. The definitions may range from "a review of all medications; identification of potentially inappropriate medicines that could be ceased, substituted, or reduced [13].

Among the 150 medical practitioners, only 17.5% were of the opinion that deprescribing was of most importance in the Geriatric age group. Though there exists much support for the relevance of deprescribing in the older adult population, the process itself is not ageist. We may surmise that certain drugs are more important to deprescribe in certain age groups. For example, irrational use of antibiotics in the paediatric department may lead to an aggravated antimicrobial resistance [15]. However, this has been challenged. The greater support for deprescription in the elderly is also because of a greater visibility of the elderly, with up to 88% of the ADR related hospitalisations (in the elderly) being reported as preventable, as compared to the 24% of non-elderly hospitalisations, however, it is important to provide adequate attention to all the equally vulnerable age-groups [16].

63% participants believed that training regarding deprescription of specific medications and having a departmental focus on the same would be favourable and enable their deprescribing attitudes. This is more of a proactive school of thought compared to the reactive results seen in previous studies. A resounding 79.2% of the total were of the opinion that the biggest reason to deprescribe stands to reduce harm to the patient via an adverse reactions due to conflicting or chronical usage of medications. The top 3 drugs chosen for deprescribing were Steroids, Benzodiazepines and Analgesics. The popularity of steroids and analgesics are widely due to the serious effects seen on chronic usage while that of BZDs is partly explained by its decline in usage and also the significant improvement in the quality of service and financial burden of treatment [18]. The process of deprescribing however does not necessitate a discontinuation of vigilance. Possible risks not only include the predictable withdrawal syndromes and rebound phenomenon related to the deprescribed drug but also effects the remaining drugs on the prescription by bringing about pharmacodynamic or pharmacokinetic changes thus, altering the metabolism of the residual drugs. Reluctance to deprescribe previously prescribed drugs in fear of harming doctor-doctor relationships emphasizes the need for regulations and policies that would encourage physicians to practice in congruence of their professional ethics and respectful conduct in the medical society subject to organizational constraints [21].

Our finding that most doctors supported deprescribing was also found by Nadarjan *et al.* and Sweta *et al.* However, unlike them, we found a lack of support towards STOPP START and Beers AGS as deprescribing tools [22]. One may also expect the same for the Anticholinergic Burden Scales. 63% participants reported their current usage of personal judgement for deprescribing rather than these criteria. This may be because of the lack of representation of any of these tools in the undergraduate and postgraduate levels and can be associated with the lack of knowledge regarding benefit/risk regarding de-prescribing. While a majority of physicians responded being amenable to following such guidelines.

We found a lack of association between those who were hesitant deprescribing previously prescribed medications and those who believe a patient lost to follow up contributes to a rising need for deprescription. This suggests a level of importance given to the drug history as mentioned by the patient as the sole source of information. This signifies the importance of educating patients on medication upon discharge.

There was a mentionable association between those believed losing a patient to follow up was an impediment to deprescription and those who believed there to exist a lack of awareness of deprescription in the medical society. Surprisingly, there was no corelation between the yes-no questions and the agree-disagree questions.

CONCLUSION: Distinguishing deprescribing from traditional prescribing patterns is the methodical proactive approach to pharmaceutical care. In our opinion, the concept of deprescription holds significance in all segments of an individual's healthcare. Not only does it play a sentinel role by preventing ADR related hospitalisations but it also protects against any potentially inappropriate medications and reactions that may be prescribed while hospitalised and upon discharge.

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