

Analysis of Psychotropic Drug Sales in India

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ABSTRACT

Objective: To assess the pattern of sales of Psychotropic drugs in India over a period of thirty-six months.

Methods: Psychotropic sales by rupees and units over a thirty-six month period were analysed in relation to estimated patient population and population taking treatment.

Results: There was an increase in per capita sales over the years. Even though there was a progressive increase in sale amount in all drugs, unit-wise there was a continuous decline in Antipsychotics (AP) and Anxiolytics (AA) in final year. Conventional AP though declining, have substantial share in sales. Similarly older AD accounted for substantial sales.

Limitations: Lack of different strengths of various drugs in unitshindered a finer and meaningful analysis.

Conclusions: There was a mismatch between need and use of Psychotropic drugs

Recommended: Analysis of individual drugs unit-wise to get a view of pattern of use in different parts of the country.

INTRODUCTION

Sale of drugs is growing at a very high rate all over the world and India is no exception. As per trade sources there are over ten thousand manufacturing units and over three thousand pharma companies in India, growing at an exceptional rate. Expenditure on pharmaceuticals is likely to increase to over 40% of the total spending on healthcare by households by 2015.¹

The pharmaceutical market was reported at Rs 6883 Crores for the month of July 2013, with a growth of 13.5%.² The domestic drug industry, which is valued at Rs 1.6 trillion (US\$ 25.87 billion) at present, according to Care Ratings, is also expected to grow in the local

market with aggressive rural penetration by drug makers, increased government spending on health, and growing health awareness among people.³

Of the increased sales the contribution of Psychotropic must be high, if one is to go by the prescriptions one comes across in daily clinical practice. Further psychiatrists are accused of over-prescribing wantonly.⁴ The drug-based paradigm of care is fuelling Psychiatric illness⁵ which further increases drug prescription.

Available data from the Indian studies suggests that about 20% of the population in the community is affected with one or the other psychiatric disorder.^{6,7} The pattern of prescription of psychiatrists in India was assessed in IPS aided survey.⁸ No analysis of sales of Psychotropic, which indirectly reflects on the use by patients, except in a district⁹, all over India were available in psychiatry literature.

Hence to find out the quantum, type, growth and other details of sales of psychotropic sales over a tree year periodan analysis was undertaken.

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MATERIALS AND METHODS

The psychotropic drug sales- that come under CNS category in industry parlance, for thirty-six month period ending in January 2015 were obtained from pharmaceutical sources. The Psychotropic were grouped under the following broad groups basing on the meant use:

Anti-psychotics (AP)
Antidepressants (AD)
Mood Stabilizers (MS)
Anti-Anxiety (AA)
Hypnotics
Anti-substance use.

The amount of sale in rupees and units for each group for three blocks of twelve months each ending by January, was computed and analysed. The contribution of older type of AP and AD (Conventional and older TCA) was computed. The first four highest selling drugs in the major four categories-AP, AD, Mode stabilizer and AA was computed.

The expected patient population and patient resorting to psychiatric treatment were calculated basing on the population for the respective blocks. The estimated population needing treatment was computed (considering it as 20%) and 26% of the estimated population as resorting to treatment basing on epidemiological trends. The per capita expenditure of psychotropic drugs in rupees was computed for the population, estimated patients and taking treatment patients.

RESULTS

The total sale in the over-all period was 10,365 (Crore) in rupees and 2,577,627 (000) units by quantity. There was a progressive increase in sales over the years. The respective contribution, percentage-wise by money for the three blocks were -30.11, 33.21 and 36.68. The respective figures for quantity were 32.24, 33.57 and 34.19. There was an increase in per capita sales over the years. Even though there was a progressive increase in amount of sale in all drugs, unit-wise there was a continuous decline in AP and final year of AA.

Table I gives the percentage of sales of categorized groups by money and units.

Table 2 gives the percentage break-up of AP and AD- Older and Newer Drugs.

Table 3 gives the first four highest selling drugs among various groups- AD, AP, Mood stabilizers, and AA.

Table 1: Percentage of sales of categorized groups by money and units

% Share of sales Year ending Jan.	By money			By units		
	2013	2014	2015	2013	2014	2015
MS	33.19	33.90	34.69	26.83	28.29	28.29
AA	23.23	22.57	22.01	30.99	30.03	28.36
AD	22.08	22.49	22.65	20.96	21.55	21.98
AP	14.51	13.63	12.47	15.22	14.51	14.01
Hypnotics	3.78	3.89	4.16	39.75	3.90	4.27
Anti-substance use	3.20	3.52	4.02	2.31	2.61	3.09
Total in crs/units (0,000)	3121	3442	3802	831149	865219	881259

Table 2: Percentage break-up of AP and AD-older and newer drugs

% Share of sales Year ending Jan.	By money			By units		
	2013	2014	2015	2013	2014	2015
AP-total	453	469	474	126514	125572	123507
AP-atypical	71.52	74.63	81.86	61.11	64.32	70.22
AP-conventional	28.48	25.37	18.14	38.89	35.68	29.78
AD-total	672	756	841	167822	179836	186552
AD-newer	81.55	82.41	83.71	59.38	60.29	62.81
AD-older	18.45	17.59	16.29	40.62	39.71	37.19

Table 4 gives the per capita consumption of Psychotropic per patient per annum.

Table 5 gives the growth rate of various groups- AD, AP, MS, AA, Hypnotics, Anti-substance Use and Total sales.

Zolpidem among sedatives, Nicotine among Anti substance use drugs group were the top selling drugs in their respective groups. Donepezil andCiticoline were the respective top sellers in their groups. Among MS, Valproate of different types was the maximum selling drug. Lithium had a static presence. If inflation is taken into consideration, the sales amount will be lower causing lesser per capita sales.

DISCUSSION

The computations regarding number of patients, number of them taking treatment, etc., are riddled with problems. There reported estimates of prevalence of psychiatric cases from different of the country in the literature varied enormously. Further the number of them taking treatment is not clear. As most of the prevalence studies were confined to some restricted place and the present analysis was about all India sales, the figure of prevalence of 20% and 26% for the later¹⁰ were taken. As AA were also included in analysis the prevalence of 20% is not high. The population figures also varied much. As the population in Crores was taken in the computation, any under or over estimates in the computation are compensated by the multiple factors involved in the computation.

Table 3: Per capita consumption of psychotropic per patient per annum

Year ending	Estimated patients in crores	Estimated patients taking treatment in crores	Per capita psychotropic expenditure per patient (Rs.)	Per capita psychotropic expenditure per estimated patients taking treatment (Rs.)
Jan. 2013	24.2674	6.309524	143.81	553.13
Jan. 2014	24.4716	6.362616	157.00	603.84
Jan. 2015	24.7778	6.442228	169.99	653.81

Table 4: Ranking of drugs by sales: AD, AP-atypical and typical, AA and sedatives

Rank/drug type	AD	AP-atypical	AP-typical	AA	Sedatives
1	Escitalopram	Olanzapine	Haloperidol	Clonazepam	Zolpidem
2	Sertraline	Amisulpride	Trifluoperazine	Pregabalin	Etizolam
3	Amitriptyline	Levosulpiride	Flupenthixol	Clobazam	Nitrazepam
4	Paroxetine	Quetiapine	Zuclopenthixol	Alprazolam	Oxazepam

Table 5: Growth rate of various groups- AD, AP, MS, AA, hypnotics, anti-substance use and total sales

Year ending Jan.	Growth rate crores		Growth rate units	
	2014 from 2013	2015 from 2014	2014 from 2013	2015 from 2014
AP	3.53	1.07	-0.74	-1.64
AD	12.34	11.24	7.04	3.87
MS	12.64	13.02	6.30	5.18
AA	7.17	7.72	0.90	-3.82
Hypnotics	13.56	17.91	9.74	11.49
Anti-substance use	21.00	26.45	17.72	20.68
Total	10.29	10.46	4.10	1.85

The overall increase in sales is to be expected with the increasing awareness of psychiatric disorders, chronicity of the psychiatric disorders, need for longer treatment, increasing public investment in personal health, etc. What was surprising was the decline in the rate of AP. The decline was mainly due to decrease in sale of conventional AP. This decline may be due to difficulty in getting them—they were no more freely available, using them only as a last resort by psychiatrists, etc. Other possible reasons could be declining rates of psychotic cases, many companies marketing AP at reduced rates, or patients not taking drugs at doses advised, etc. It may also be due to increasing practice of Mood stabilizers, which are increasingly in use for most of the cases in practice.

The reason for the increased sale of antidepressants (AD) and mood-stabilizers, apart from more frequent diagnosis of depression, may be higher cost of AD and liberal AD prescriptions by non-psychiatrists.¹¹ This was in tune with the observation in a survey of twenty-five countries that consumption of AD has raised since 2000.¹²

Growth rate showed an upward trend for all except AP and later months in AA. This implies a shift in treatment modality by increasing dependence on MS, AD and Hypnotics. The high and rapidly growing sales of Mood stabilizers' may be due to the emergence of more cases of

chronic depression necessitating institution of them. By the time the case comes to a psychiatrist generally the patient have already had one or two AD most often necessitating augmentation. This explains the observation of combined sale of AD and Mood stabilizers outstripping all others and topping the sales. Though not all the sales can be from psychiatry patients as most of the MS are Anti-epileptics.

The high volume of anti-anxiety including hypnotics—which are prescribed generally as AA by many, drug sales is alarming to put it mildly in spite of the teaching that caution should be exercised in prescribing AA and they should not be used for long. It reflects on the increasing pop-a-pill for all ills culture⁹ as an easy way out rather than learning coping mechanisms. This can also be due to easy availability of them notwithstanding rules and regulations. The decline in unit sales of AA and negative growth rate in 2015 may be due to increased cost and increased restrictions on sales. Further it may be a reflection of increased replacement of them by AD.

Indian Psychiatric Society multicentre study reported more than half the cases as affective disorders followed by neurotic, stress-related, Somatoform disorders closely followed by Psychotic disorders at a lesser rate in the diagnostic category.⁸ The contribution of psychotic conditions needing longer treatment and the apparent havoc and disruption caused by it in contrast to more individual suffering in depression and anxiety force the family and attendants to resort and continue treatment. But this was not reflected in AP sales.

The recommendation that treatment for depression should be continued in spite of clinical report of normality for 9-12 months accounts for combined increased AD, Mood stabilizers. This might further explain higher sales of AD. Even though this is true for schizophrenia also (it is still longer in a large number of cases), the anti-psychotic market is less for the simple reason that the incidence of schizophrenia is less and it is further shrinking due to

changing diagnostic practice. Further the chronic nature of schizophrenia makes most of the attendant to use APs sparingly, partially, SOS states, etc. In addition non-psychiatrists do not prescribe AP but are liberal with AD and AA.⁹

The increasing sales of Nicotine reflects the increasing awareness of ill-effects of tobacco and consequent treatment seeking.

One should keep the fact that patients continue the same drug after a visit or two for varying periods extending to decades in some cases without a review, in mind while interpreting sales. Expenditure on patient per annum may not give an idea of the quantum of patients for the same reason. This may explain the status of substantial sales of Typical AP. This is true of older AD also, in spite of being blackened, frowned upon and looked down for their side-effects profile and difficulty in getting them-more so AP.

High dose prescribing¹³ and poly pharmacy¹⁴ might have contributed for the sales increase in quantum of Psychotropic without reflecting increase in the quantum of new patients taking treatment.

The sale does not necessarily indicate or reflect the disease pattern of the country; it only reflects the buying of psychotropic drugs by patients and to some extent prescription practice, which depends on many things including marketing techniques.

Increasing population, awareness, and number of medical profession including psychiatrists are some of the other contributing factors for the increasing sales. Further increased per-capita income, health consciousness, competing pharma companies and their high pitch promotion all add to the increase in sales. It may be good for the industry, national exchequer, employment, etc. One has to ponder about the impact of this on the individual patient. The analysis, though not conclusive in the absence of break-up of units-main drawback of this analysis, could mean that the patients are not getting adequate dose for adequate period as suggest in various guidelines. If the patients were indeed getting adequate dose for sufficient period, the sales could have been higher. This situation could lead to an antibiotic resistant bacteria type of situation in psychiatry also. Interesting facts may come out if unit-wise data and region-wise analysis is done.

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