

Drug-Induced Extrapyramidal Side-Effects in Egyptian Schizophrenic Patients

by A. Okasha, H. El Okbi, A. Sadek., Lotiaf and A.M. Ashour.

ABSTRACT

A prospective follow-up of Egyptian schizophrenic patients treated with oral phenothiazines showed that 60% of patients are receiving antiparkinsonian drugs unnecessarily and that the risk of a return of EPS following the discontinuation of antiparkinsonian drugs is small i.e. 30%. It can be assumed that social variations of metabolic factors of cerebral amines turnover may influence the prevalence and nature of EPS.

INTRODUCTION

It is well known that the neuroleptic drugs may produce extrapyramidal side-effects. It is reported in the world literature that the prevalence of such side-effects varies from 88% (Kennedy, Herson and McGuire, 1971) to 23% (Ayd, 1961), though most studies cluster around 40%. In a recent study (Johnson, 1978) there was a variation in the prevalence rates between 24-74%.

This variation may be due to using different types of neuroleptics by different routes (oral or intramuscular) with different potencies, and also using different methods of detection of such side-effects. Also most cases were chronic, possibly with secondary complications. In routine psychiatric practice, antiparkinsonian (AP) drugs are used almost routinely in the presence of extrapyramidal side-effects or even prophylactically. A number of studies failed to demonstrate any beneficial effects from the administration of AP drugs (Ekdawi and Fowki, 1966; Mindhan, 1972).

So, the routine use of drugs is a waste of financial resources, besides the additive side-effects which may enhance confusion and other known toxic effects (Johnson, 1920; Marsden, 1975). Also they can lower the plasma level of phenothiazines, (Chan, Sakalis and Gershon, 1973), and possibly reduce the therapeutic effects (Singh and Smith, 1973). AP drugs have been reported to influence the absorption from the gut (Rivera-Calimlim, 1976). The present study attempts to verify quantitatively, and qualitatively the prevalence of the manifestations of such side-effects among a sample of Egyptian schizophrenic patients treated with oral doses of neuroleptics. The main object was to find any cross-cultural differences which may render Egyptian patients more or less prone to this or that special type of side-effect.

METHOD

This study was carried out in 55 schizophrenic patients selected at random from the out-patient clinic of Ain Shams University Hospital and admitted to the psychiatric unit. They were diagnosed as suffering from schizophrenia according to the Diagnostic Manual of the Egyptian Psychiatric Association, following the ICD-8. Schneider's first rank symptoms were considered before including cases under the diagnosis of schizophrenia in this study, patients included were aged 18 to 65 years. Thirty-five patients were given trifluoperazine (Stelazine) starting with 15 mg. per day, reaching a maximum of 30 mg. daily according to the severity of symptoms; the remaining 20 patients were given chlorpromazine from 75 to 400 mg. daily. The patients were under strict supervision by medical staff and nurses to report the occurrence of extrapyramidal side-effects. AP drugs (benzhexol 5 mg. twice or thrice daily) were prescribed only if EPS appeared, and continued until these side-effects disappeared completely. After the disappearance of EPS the drugs were discontinued. They were prescribed again in case of reappearance of EPS.

RESULTS

Out of 55 schizophrenic patients studied, 20 patients developed extrapyramidal side-effects (EPS) (36.4%), 4 of them received chlor-

promazine (7.2%) and 16 were on trifluoperazine (29%). Statistical comparison was done by the student's 't' test. This indicates that patients on trifluoperazine develop EPS more than those on chlorpromazine; this difference is statistically significant ($P < 0.05$). Thus 63.6% of cases would have received antiparkinsonian drugs unnecessarily (Table I). Sex, family history of schizophrenia, family history of extrapyramidal disease, presence of concomitant physical illness, concomitant usage of other drugs or ECT were unrelated to the occurrence of EPS (Table II). Table III shows that the commonest EPS, among Egyptians, is parkinsonism (21.8%) occurring at a mean age of 23 years, on the 11th day from intake of the phenothiazines, followed by acute dystonia (18.8%) which is considered the earliest EPS occurring at a mean age of 26 years on the 7th day from intake of the phenothiazines. Lastly akathisia (5.5%) which is the least frequent (contrary to its prevalence in the world literature) occurring at a mean age of 30 years, on the 16th day of phenothiazine intake, when the AP drugs were discontinued after the disappearance of EPS, only 6 cases (30%) needed re-administration of AP drugs as their EPS reappeared.

DISCUSSION

The results demonstrate that the prevalence rate of EPS is only 36.4%, with relatively moderate doses of phenothiazines. It is clear from our work and that of others throughout the world that the prevalence of EPS with phenothiazines does not exceed 40%; and this means that about 60% are probably prescribing AP drugs unnecessarily. The risk of a return of EPS following the discontinuation of AP drugs is small, i.e. 30%. Other studies confirm this observation, (McClelland, Blessed, Bhate, Ali and Clark 1974; Anath, 1970; Johnson, 1978). This means that the patients who develop EPS may not need prolonged concomitant usage of antiparkinsonian drugs. It is clear from Table III that our figures regarding the prevalence of each type of EPS is not in agreement with other works. Ayd (1961) is of the opinion that the occurrence of these side-effects is rather a reflection of personal idiosyncrasy than of chemical structure, dosage or duration of treatment. It may be assumed that this personal idiosyncrasy is in its turn a reflection of the social variation

of amine turnover and this explains the different results obtained in this study. In their study on schizophrenia, Hasse and Janssen (1965) and Pryce and Edwards (1966) believe that the cerebral turnover of amines may have some social and constitutional variation, which may influence the prevalence and nature of side effects occurring on phenothiazine administration.

TABLE I

Relation between type of phenothiazine and the occurrence of EPS.

	No. of Pts. with EPS	No. of Pts. without EPS	Total
Chlorpromazine	4	16	20
Trifluoperazine	16	19	35
Total			55

TABLE II

Relationship between the prevalence of EPS and different variables

Variable		EPS	CHLOR	TRIF	Total	SIGNIF
Sex	Males	With	1	11	12	0.206
		Without	7	12	19	Insig.
	Females	With	31	5	8	0.103
		Without	9	7	16	Insig.
Family History	Positive	With	1	7	8	0.12
		Without	6	7	13	Insig.
	Negative	With	3	9	12	0.15
		Without	10	12	22	Insig.
Physical Illness	With	With	—	6	6	0.13
		Without	2	2	4	Insig.
	Without	With	4	10	14	0.15
		Without	14	17	31	Insig.
Other	Given	With	4	13	17	0.14
		Without	3	2	5	Insig.
	Not given	With	—	3	3	0.21
		Without	13	17	39	Insig.
ECT	Given	With	3	7	10	0.16
		Without	10	9	19	Insig.
	Not given	With	1	9	10	0.12
		Without	6	10	16	Insig.

Statistical comparison was done by the Student's 't' Test.

TABLE III
Comparison between Egyptian results and their counterparts
in world literature

	Egyptian Results	World Literature
Parkinsonism		
		Sheppard (1967) Frehan (1957) Goldman (1961)
Prevalence	21.8%	10-15%
Age	23 yrs.	Above 40 yrs.
Sex	No relation	More in females.
F. H.	No relation	More with the family of EPS.
Acute dystonia		
		Ayd (1961) Chase (1972)
Prevalence	18.8%	2.5-5%
Age	26 yrs.	Young age.
Sex	No relation	More in males.
Akathisia		
		Ayd (1961) Frehan (1957) Goldman (1961)
Prevalence	5.5%	20% (most common)
Age	30 yrs.	No specific age.
Sex	No relation	No relation.
F. H.	No relation	No relation.

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الموجز

الأعراض الجانبية في الجهاز العصبي (الجهاز خارج الهرمي - الأليسترو بيراميدال) المترتبة على استعمال العقاقير النفسية في عينة من المرضى الفصامين المصريين

اتضح من هذه الدراسة التتبعية لعينة من مرضى الفصام المصريين الذين يعالجون بأقراص الفينوثيازين أن ٦٠٪ من مجموع العينة قد يتعاطون أدوية مضادة للشلل الرعاش بدون داع لاستعمالها ، كذلك ظهر أن احتمال رجوع الأعراض الجانبية خارج الجهاز الهرمي نتيجة للتوقف عن تعاطي العقاقير المضادة للشلل الرعاش قليل (٣٠٪) ، وعلى هذا فإنه من الممكن افتراض أن الاختلافات الفردية المتعلقة بعوامل أيض الأحماض الأمينية المخية قد تؤثر على نسبة انتشار وطبيعة هذا النوع من الأعراض الجانبية .

ABSTRACT

Les manifestations extra-pyramidales produites par les drogues chez les malades schizophréniques égyptiens.

Un prospectif de suivre de près des malades schizophréniques égyptiens traités par l'administration orale des phenothiazines a montré que 60% des malades reçoivent des drogues antiparkinsoniens inutilement et que le risque du retour des manifestations extra-pyramidales suivant l'interruption des drogues antiparkinsoniens est très petit i.e. 30%. Nous pouvons en assumer que les variations sociales traduites en facteurs métaboliques contrôlant le changement des amines cérébrales peuvent influencer la prévalence et la nature des manifestations extra-pyramidales.

**The Non-Medical Use of Psychoactive Substances
Among Secondary School Male Students in
Egypt: An Epidemiological Study
(A Brief Report)**

*by M. Soveif, A.M. El-Sayed, M.A. Honnobrah and Z.A.
Darweash.*

ABSTRACT

An epidemiological study of the non-medical use of psychoactive substances in a representative sample of the population of secondary schools in Cairo was carried out. A questionnaire was administered to about 6000 students derived from 126 classes distributed among 42 schools covering all socio-economic and population density continua. A preliminary inspection of the results showed Art students to be more involved in drug culture than Science students, the use of natural narcotics more prevalent than synthetic drugs. The findings were similar to those of other western studies.

INTRODUCTION

The present paper reports on an epidemiological study of the non-medical use of psychoactive substances by secondary school male students in Greater Cairo. The main aim of the study is to provide factual answers to the following questions:

1. How prevalent drug abuse is among male school students.
2. What are the psychoactive substances most commonly used?
3. What socio-psychological variables are meaningfully associated with the use of the substances.

PROCEDURE

The tool:

A questionnaire was constructed and standardized expressly for the present investigation. The endorsed questions were all orientated