THERAPEUTIC COMPLIANCE OF PATIENTS ON PHENOTHIAZINES

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SUMMARY

The present study was designed to assess the therapeutic compliance of psychiatric patients who reported to be on regular medication particularly phenothiazines.

Of the all cases subjected to the F.P.N. test, it was clearly negative in 21 (18.9%) indicating, their non-adherence to the drug therapy. Despite their report of regular drug intake at the time of urine screening, five of these twenty one patients had reported at a later date discontinuity of therapy for some reason or the other. Curiously, on a long term drug therapy, the incidence of non-compliance is relatively less.

One of the striking impediments in the implementation of the treatment programme of psychiatric patients is the problem of non-adherence to medication. It encompasses a wide variety of behaviors on the part of the patient: failure to enter a treatment programme, premature termination of therapy and incomplete implementation of instructions, including prescriptions.

Non-adherence to drug therapy may be categorized into four groups (Malady, 1966): errors of omission, errors of purpose (taking medicine for wrong reasons), errors of dosage, and mistakes in timing or sequence. In psychiatric patients, capacity to cooperate may be impaired by the illness as well as by attitudes towards health and treatment. The commonest methods adopted to detect non-adherence are interrogation and tablets estimation by counting which, may be as misleading as interrogation. Other more reliable methods that could be employed are the use of drug markers and drug detection in serum, C. S. F., urine etc.

The present study was designed to detect the presence of phenothiazines in the urine of psychiatric patients who reported to be on regular medication particularly phenothiazines, either alone or in combination with other psychopharmacological drugs.

MATERIALS AND METHODS

All categories of psychiatric patients who attended the Department of Psychiatry, Govt. General Hospital, Madras during the month of May 1981 and were supposed to be on regular phenothiazine medication at least for a day and till the previous night of the proposed urine analysis, were selected for the study. After recording the details like the sociodemographic variables, diagnosis, duration of treatment, the drugs and dosage prescribed, about 10 ml of urine was collected in a clean test tube from each patient. The study was conducted during the early morning hours and the F. P. N. test (Forrest and Forrest, 1960) was performed to look for the presence of phenothiazines.
of the parent compound of the phenothiazine in the urine of each patient.

F. P. N. TEST
a) F. P. N. Reagent:
   i) Ferric chloride solution, 50 g/l in water
   ii) Perchloric acid 200 ml of the 72% acid made to 1 litre with water.
   iii) Nitric acid solutions 500 ml of concentrated acid is made to 1 litre with water.

These reagents are stable for a long time. For the F. P. N. reagents i, ii, iii are added in the proportion of 1 : 9 : 10 respectively and fresh solution was used every time. To one ml of urine, one ml of FPN reagent was added and if the colour developed it was graded as faint pink, distinct pink and dark pink.

RESULTS

Of the 111 cases subjected to the FPN test, the larger proportion was formed by the Schizophrenics (107) and the rest were drug induced schizophreniform psychosis, post traumatic dementia and affective disorders.

All our patients were on chlorpromazine with the dosage ranging from 25-600 mgs/day. Besides this, three cases were also on trifluoperazine, four on haloperidol, five on amitryptaline, one on imipramine and quite a number of them on antiparkinsonian drug also.

Of the 111 patients studied, FPN test was positive in 90 cases only (81%). In the rest 21 samples (18.9%) (Table I) it was clearly -ve. Despite their report of regular drug intake at the time of urine screening, five of these 21 had confessed at a later date discontinuity of therapy for some reason or the other.

Though the duration of illness bears no correlation to compliance, there seems to be an association between the duration of drug therapy and compliance, i.e. the longer the period of drug therapy the lesser

| Criteria     | No. of patients |
|--------------|----------------|
| No colour    | 21 (18.9)      |
| Pale pink    | 34 (30.5)      |
| Distinct Pink| 42 (37.9)      |
| Deep Pink    | 14 (12.6)      |

Figures in parenthesis indicate percent, gr.

the tendency for non compliance (Table 4). However, neither the dosage nor the sociodemographic variables appear to be contributory to any significant finding (Table 2 & 3).

TABLE 2. Dosage Schedule of F. P. N. Test Negative Cases.

| Chlorpromazine dosage in milligrams | No. of cases with negative result |
|-------------------------------------|----------------------------------|
| 25+25+25                           | 1 (4.8)                          |
| 25+25+50                           | 1 (4.8)                          |
| 50mg HS                             | 3 (14.3)                         |
| 50+50+50                           | 4 (19.0)                         |
| 50+50+100                          | 4 (19.0)                         |
| 100mg HS                            | 2 (9.5)                          |
| 100+100                            | 1 (4.8)                          |
| 100+100+100                        | 3 (14.3)                         |
| 150+100+150                        | 1 (4.8)                          |
| 250mg HS                            | 1 (4.8)                          |

Figures in parenthesis indicate percentage.

TABLE 3. Sociodemographic variables.

| Age (in yrs.) | Compliant (N=90) | Non-Compliant (N=21) |
|---------------|------------------|----------------------|
| Upto 20       | 18 (20.0)        | 3 (14.3)             |
| 21-30         | 36 (40.0)        | 6 (28.6)             |
| 31-40         | 25 (27.8)        | 8 (38.1)             |
| 41-50         | 9 (10.0)         | 1 (4.8)              |
| Above 51      | 2 (2.2)          | 3 (14.3)             |

\[ X^2 = 7.47, N.S. \]

| Sex          | Compliant (N=90) | Non-Compliant (N=21) |
|--------------|------------------|----------------------|
| Male         | 55 (61.1)        | 12 (57.1)            |
| Female       | 35 (38.9)        | 9 (42.9)             |
TABLE 3—(Contd.)

| Education          | Compl. int (N=90) | Non-Compl. int (N=21) |
|--------------------|-------------------|-----------------------|
| Illiterate         | 12 (13.3)         | 5 (23.8)              |
| Upto 5th Std.      | 21 (23.3)         | 4 (19.1)              |
| High School        | 51 (56.7)         | 12 (56.1)             |
| Degree Course      | 5 (5.6)           | —                     |
| P.G./Professional  | 1 (1.1)           | —                     |

\(X^2 = 4.43, \text{N.S.}\)

| Domicile          | Compl. int (N=90) | Non-Compl. int (N=21) |
|-------------------|-------------------|-----------------------|
| Within the City   | 68 (75.6)         | 16 (75.2)             |
| Outside the City  | 22 (24.4)         | 5 (23.8)              |

Figures in Parenthesis indicate percentage.

TABLE 4. Comparison of the two groups of patients, based on duration of illness and duration of drug therapy.

| Duration of illness in yrs. | Pts. in relation to duration of illness | Duration of Drug therapy in years | Pts. in relation to the period of drug therapy |
|-----------------------------|----------------------------------------|----------------------------------|-----------------------------------------------|
|                             | Compl. int (N=90) | Non-compl. int (N=21) | Compl. int (N=90) | Non-compl. int (N=21) |
| <1                          | 72                     | 13                     | <1                          | 30                     | 7                     |
| 1—2                         | 3                      | 2                      | 1—2                         | 6                      | 1                     |
| 2—3                         | 3                      | 1                      | 2—3                         | 10                     | 1                     |
| 3—4                         | 1                      | 2                      | 3—4                         | 5                      | 3                     |
| 4—5                         | 2                      | 1                      | 4—5                         | 2                      | —                     |
| 5—6                         | 3                      | 1                      | 5—6                         | 4                      | 3                     |
| 6—7                         | 1                      | 1                      | 6—7                         | 3                      | 4                     |
| 7—8                         | 1                      | —                      | 7—8                         | 5                      | —                     |
| >8                          | 4                      | —                      | >8                          | 25                     | —                     |

\(X^2 = 9.66, \text{N.S.}\) \(X^2 = 16.79, p < .05\)

DISCUSSION

FPN test is one of the screening colour tests available for phenothiazines in freshly voided urine. The test is positive after normal therapeutic dose. The reaction is not unique to phenothiazines. Some benzodiazepines and tricyclic antidepressants also give similar reactions. In the present study no patient received benzodiazepines. Hence in those who received tricyclic antidepressants also, the positive response could have been due to both. It was presumed that those who were prescribed both the drugs took both if the urine test was positive. In the absence of a colour one can rule out the possibility of phenothiazines in urine.

Renton et al. (1963), found that non-adherence was highest in schizophrenics who were most ill at the time of discharge, but found it difficult to decide whether this was the cause or result of further deterioration. However Lipman et al. (1965) found that low adherence was most common among the most anxious out pa-
on prolonged drug therapy probably indicates that the patients and their relatives learn over a course of time the necessity of these medications in the proper maintenance of the mental health of the patient. Our findings will serve as a pointer for emphasizing the role of medicines even at the outset of the treatment programme which will considerably reduce the drop outs during the initial phase of management.

CONCLUSION

Adherence to medication is one of the vital factors in the secondary and tertiary prevention of psychiatric illness. It is not uncommon to confront cases where our conventional enquires regarding drug intake are no avail and other sophisticated methods of drug detection turn out to be inaccessible either. The present study illustrates a simple bedside method to detect the intake of the commonest drug in psychiatry and thus could have a major impact.

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