A prospective cohort study on the role of nonspecialist staff in preventing relapses and improving clinic attendance of patients with schizophrenia

Chaturaka Rodrigo, Srina Welgama, Thilina Wijeratne, Ruvini Weligepola, Senaka Rajapakse, Gamini Jayananda
Psychiatry Unit, Provincial General Hospital, Ratnapura, Department of Clinical Medicine, Faculty of Medicine, University of Colombo, Sri Lanka

ABSTRACT

Background: The Sri Lankan government employs graduates from local universities (trained in non-psychiatry disciplines) as Mental Health Development Officers (MHDOs) to fulfill the role of a psychiatric social worker.

Materials and Methods: This was a prospective interventional cohort study on preventing relapses of schizophrenia by active involvement of MHDOs. The intervention (randomly selected) and control groups each had 25 follow-up patients with schizophrenia (1:1 match for sex, ethnicity, age, and duration of illness). The intervention was to develop a close liaison with the patient/family and build an individualized client oriented follow-up through the MHDOs. The follow-up period was 1 year.

Results: The intervention group had better clinic attendance, less relapses, and defaults. The number needed to follow-up to avert a relapse or a default was 12.5 and 5 respectively.

Conclusions: Low-cost strategies involving nonspecialist staff can reduce relapses and defaults in patients with schizophrenia.

Key words: Prevention, relapses, schizophrenia, social workers

INTRODUCTION

Management of schizophrenia is a multidisciplinary effort involving psychiatrists, nurses, occupational therapists, social workers, and most importantly, the patient and family.[1] Approximately 80% of patients relapse after the initial presentation and with each relapse, the functional level deteriorates irreversibly.[2] This underscores the importance of prevention.[2,3]

The Psychiatric Social Worker (PSW) is an important link between the patient, hospital, and the community. They are employed by the Ministry of Health, Sri Lanka with a special training to provide services to patients with mental illnesses. However, there is a severe shortage of staff to cope up with the demand. In this regard, the government has decided to recruit university graduates (not necessarily trained in psychiatry related courses) as Mental Health Development Officers (MHDO). Their services are utilized to fulfill that of a PSW after a basic training.

Our objective was to conduct a prospective interventional cohort study on preventing relapses and improving compliance of patients with schizophrenia by active involvement of MHDOs.

MATERIALS AND METHODS

This study was carried out in the Psychiatry unit of the Provincial General Hospital, Ratnapura (PGHR), Sri Lanka. The intervention group consisted of randomly selected...
25 patients with schizophrenia who were followed up at PGHR. Another 25 follow-up patients with schizophrenia were selected as controls (1:1 match for sex, ethnicity, age, and duration of illness) from the patient registry. All patients were in remission at the time of enrollment (has not had a relapse for a minimum of 6 months prior to recruitment). The maintenance regimen of antipsychotics was continued. The duration of selection was 1 month and the total pool of schizophrenia patients on follow-up at PGHR was approximately 1000 at this time.

In routine follow-up, patients are referred to the MHDOs only if they need financial assistance from welfare schemes or when there are substantial family or social issues to be resolved. The intervention in this study aimed at establishing a close liaison with the MHDOs for the intervention group. The intervention group was introduced to the MHDO for a detailed assessment of family and social circumstances plus a rapport building interview at the beginning:

1. Followed up monthly by the MHDOs at PGHR (at clinic visits);
2. Followed up by phone calls twice in between clinic visits to discuss compliance and treatment-related problems;
3. Visited by the MHDOs at home at least once during the study;
4. Assessed in detail for ongoing problems and solutions were sought by a multidisciplinary effort when needed.

The aim of this intervention was to develop a close liaison with the patient and family, deliver effective health education and build an individualized client oriented rapport.

Number of relapses, number of defaults, and the regularity of clinic visits during the follow-up period were assessed as outcome indicators. Both groups were followed up for 1 year.

The diagnosis of schizophrenia was established according to the International Classification of Diseases (ICD-10).[4] Data analysis was done with SPSS statistical analysis software. Ethical clearance was granted by the Ethics review committee of the Faculty of Medicine, University of Colombo. The control group received the standard patient care at follow-up clinics (monthly clinic visits and evaluation by a medical officer, pharmacological management, and referral to MHDO’s only when necessary as determined by the attending medical officer in clinic). All patients were enrolled with informed voluntary consent.

RESULTS

The study consisted of two follow-up cohorts; 25 in intervention group and 25 controls. Both groups consisted of 16 (64%) females and 9 (36%) males. Twenty-four of each group was Sinhalese (96%) and one (4%) was Tamil (The local population is predominantly Sinhalese). The third criterion for matching was the duration of follow-up since the year of diagnosis. In this regard, prior to recruitment, 7 (28%) patients in each group were diagnosed with schizophrenia for more than 3 years but less than 5 years. Ten (40%) patients had been diagnosed between 5 and 15 years prior and the rest (32%) had been diagnosed for more than 15 years. Matching was also done with regard to age as far as possible. The mean age of the intervention group was 45.8 (Standard Deviation (SD) - 11.7) years while that of the controls was 42.7 (SD - 11.5). This difference was not statistically significant (unpaired t test, df - 48, t - 0.945, P>0.05).

A comparison of the groups on several other criteria (that were not matched) is given in Table 1. There was no statistically significant difference between the two groups on many of these issues. However in the intervention group, a statistically significant proportion has had a secondary education. The average number of relapses in the intervention group before the start of the study was 2.56 (SD - 3.54) while it was 1.94 for the controls regardless of the duration of diagnosis or length of follow-up (SD - 3.61) (unpaired t test, df - 48, t - 0.613, P>0.05).

During the follow-up period, 1 patient in the intervention group, and 3 patients in the control group had a relapse of schizophrenia (relative risk (RR): 1.57, 95% Confidence interval (CI): 0.82-2.98) (Fisher’s exact test, df - 1, P=0.61). In all situations noncompliance with medication was the most plausible cause for relapse. Since the patients are reviewed at monthly intervals at clinics, each patient should have had 12 clinic visits during the follow-up period. The average number of clinic visits for intervention and control groups were 10.1 and 9.5 (SD - 2.33 and 3.53) respectively. This difference was not statistically significant (unpaired t test, df - 48, t - 0.709, P>0.05). Two people had defaulted

| Variable                                      | Intervention group (n=25) | Control group (n=25) | Chi-square value (df-1) |
|-----------------------------------------------|--------------------------|----------------------|-------------------------|
| Level of education (secondary education vs. no secondary education) | Yes | 19 | 6 | 12 | 13 | 4.22* |
| Being married                                 | Yes | 17 | 8 | 14 | 11 | 0.77 |
| Individual monthly income less than Rs. 5000 | Yes | 13 | 12 | 14 | 9 | 0.39 |
| Being employed                                | Yes | 11 | 14 | 8 | 17 | 0.77 |
| Living within a 30 km distance from hospital  | Yes | 13 | 12 | 18 | 7 | 0.31 |
| Maintained on typical antipsychotics (vs. atypicals)** | Yes | 9 | 16 | 10 | 13 | 0.28 |

*P<0.05, **Two patients in the control group were maintained on clozapine
treatment in the intervention group while seven had done so in the control group (defaulting was defined as not attending clinics for 4 consecutive months prior to the end of the study). The relative risk for default in the control group was 1.77 (95% CI: 1.08-2.90). Still, the default rates were not statistically significant between the two groups (Fisher’s exact test, df - 1, $P$ (two tailed) - 0.14). The number needed to follow up to avert a relapse and a default was 12.5 and 5 respectively.

**DISCUSSION**

Despite the outcome indicators not differing at a level of statistical significance, the intervention group had better clinic attendance, less relapses, and less defaults. It can be assumed that better performance in the intervention group was partly due to the positive effect of the intervention (better education in the intervention group may also have contributed). Indeed, statistical significance is always not synonymous with clinical significance and a relapse averted for every 12 patients followed up cannot be neglected given the individual and social costs of a relapse.[3]

A limitation of the study was the small sample size. However, since only two Mental Health Development Officers (MHDOs) were allocated to our unit, these were the maximum numbers that could be followed up without hindering the routine services. More relapses might have been observed in the control group if the follow-up was longer.

The intervention in this study did not involve any advanced psychotherapy that needed to be delivered by a trained person. It was a low-cost intervention where much of the rapport building and reminding was done over the phone. As mentioned previously, the number of trained psychiatric social workers (PSW) and the facilities to train them in Sri Lanka are limited. However the demand for their services is considerable. This study shows that nonspecialist staff can be effectively utilized to prevent relapses of schizophrenia.

**CONCLUSION**

This interventional cohort study shows that a low-cost intervention of rapport building, improved communication, patient education and closer follow-up by nonspecialist staff members can contribute to reduce relapses, improve compliance, and cut down on defaulting. The cost-effectiveness of such an intervention is considerable given the individual, financial, and social costs of a relapse of schizophrenia.

Therefore it is recommended that more nonspecialist staff are assigned to psychiatry units with in-service training opportunities and their services are utilized in similar low cost relapse prevention measures.

**REFERENCES**

1. Beets CC. Social support and schizophrenia. Schzophr Bull 1981;7:58-72.
2. Gelder M, Mayou R, Geddes H. Psychiatry. 2nd ed. Oxford: Oxford University Press; 1999.
3. Chisholm D, Gureje O, Saldivia S, Calderon MV, Wicramasinghe R, Mendis N, et al. Schizophrenia treatment in the developing world: An interregional and multinational cost-effectiveness analysis. Bull World Health Organ 2008;86:542-51.
4. World Health Organization. International Classification of Diseases. Available from: http://apps.who.int/classifications/apps/icd/icd10online/ [Last accessed on 2010 May 01].

**Source of Support:** Nil, **Conflict of Interest:** None declared

---

**Staying in touch with the journal**

1) **Table of Contents (TOC) email alert**
   Receive an email alert containing the TOC when a new complete issue of the journal is made available online. To register for TOC alerts go to www.indianjpsychiatry.org/signup.asp.

2) **RSS feeds**
   Really Simple Syndication (RSS) helps you to get alerts on new publication right on your desktop without going to the journal's website. You need a software (e.g. RSSReader, Feed Demon, FeedReader, My Yahoo!, NewsGator and NewsCrawler) to get advantage of this tool. RSS feeds can also be read through FireFox or Microsoft Outlook 2007. Once any of these small (and mostly free) software is installed, add www.indianjpsychiatry.org/rssfeed.asp as one of the feeds.