Effectiveness of Compliance Therapy for Individuals Diagnosed with Schizophrenia

Julie Flynn
Pacific University

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Effectiveness of Compliance Therapy for Individuals Diagnosed with Schizophrenia

Disciplines
Mental and Social Health | Occupational Therapy | Rehabilitation and Therapy

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Prepared by: Julie Flynn, OTS (flyn1898@pacificu.edu)
Date: December 01, 2009
Review date:

CLINICAL SCENARIO:

A 35 year old male diagnosed with schizophrenia has been re-admitted into the inpatient psychiatric unit with complaints of worsening symptoms. He says voices have been telling him to hurt himself. His wife reports that he has not been taking his medications on a daily basis because he felt that he was getting better and that the voices have been telling him not to take them. He was discharged from the hospital 2 months ago after having his first psychotic break. Patient goal includes learning to cope with his symptoms and consistently taking medications on a daily basis. The occupational therapist reads that only 50% of patients diagnosed with schizophrenia are compliant with prescribed medication regimes. The therapist considers compliance therapy and wonders if it is an effective approach to help the patient adhere to his medication.

FOCUSED CLINICAL QUESTION:

Is compliance therapy an effective intervention for increasing medication adherence in individuals with schizophrenia?

SUMMARY of Search, ‘Best’ Evidence’ appraised, and Key Findings:

- A total of 5 research articles investigating the effectiveness of compliance therapy were analysed by this writer.
- The systematic review by Dodds, Rebair-Brown, and Parsons (2000) was deemed the ‘best evidence’ evaluated.
- It reviewed 8 randomised controlled trials with interventions intended to improve compliance with prescribed medication. Kemp (1996, 1998) articles used compliance therapy as the intervention. Six studies showed improvement in compliance rates following intervention, although only three of these reached statistical significance. Compliance therapy is the most complex of all interventions tested, however it showed significant increases in compliance rates, which appeared to sustain over time. In the study conducted by Boczhowski et al., the behaviour-tailoring group had statistically significant increases in medication compliance rates, although follow-up was continued for only 3 months.
- The review concludes with suggesting that individualized approaches, with specifically tailored interventions are most effective in improving compliance.

CLINICAL BOTTOM LINE:

Compliance therapy is one of many interventions used in mental health settings to increase medication compliance. Contradictory results exist in the literature, making a single coherent conclusion difficult. It is reported as being more cost-effective than other interventions, though a lack of evidence may deem this intervention as a waste of time in a clinical setting.
Limitation of this CAT:
This CAT include has not been peer-reviewed. An exhaustive literature search was not conducted on this topic. And finally, this writer is not an expert on this topic.

SEARCH STRATEGY:

Terms used to guide Search Strategy:

- **Patient/Client Group:** individuals with schizophrenia
- **Intervention (or Assessment):** Compliance therapy
- **Comparison:** n/a
- **Outcome(s):** increasing medication adherence

<table>
<thead>
<tr>
<th>Databases Searched</th>
<th>Search Terms</th>
<th>Limits used</th>
</tr>
</thead>
<tbody>
<tr>
<td>CINAHL (Ebsco)</td>
<td>“increase”, “compliance”, “schizophrenia”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“schizophrenia”, “medication compliance”, “improve”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“compliance therapy” AND “schizophrenia”</td>
<td></td>
</tr>
<tr>
<td>OVID-EBM reviews</td>
<td>“schizophrenia” AND “compliance to medication”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“schizophrenia” AND “medication adherence”</td>
<td></td>
</tr>
</tbody>
</table>

**INCLUSION and EXCLUSION CRITERIA**

- **Inclusion:**
  - peer reviewed articles
  - adult participants
  - compliance therapy as the intervention
  - participants included patients receiving psychiatric care
  - participants with a diagnosis of schizophrenia
  - participants who were receiving antipsychotic medication

- **Exclusion:**
  - all other interventions not related to compliance therapy
  - all other mental health diagnoses
RESULTS OF SEARCH

Table 1: Summary of Study Designs of Articles Retrieved

<table>
<thead>
<tr>
<th>Study Design/ Methodology of Articles Retrieved</th>
<th>Level</th>
<th>Number Located</th>
<th>Author (Year)</th>
</tr>
</thead>
</table>

BEST EVIDENCE

The following study/paper was identified as the ‘best’ evidence and selected for critical appraisal. Reasons for selecting this study were:


  http://search.ebscohost.com.proxy.lib.pacificu.edu:2048

This article is identified as the best evidence by this writer because it is a systematic review that analyses a total of 8 studies, substantially more than the other systematic review included in the studies evaluated. Inclusion criteria included controlled randomized trials, Level II evidence-based literature. The researchers scrutinized and independently reviewed 35 articles. The remainder 8 studies included different interventions aimed at increasing medication adherence. The researchers concluded with which the most effective for increasing medication compliance.

SUMMARY OF BEST EVIDENCE

Table 2: Description and appraisal of (A systematic review of randomized controlled trials that attempt to identify interventions that improve patient compliance with prescribed antipsychotic medication) by (Dodds, F., Rebair-Brown, A., & Parsons, S., 2000).

**Aim/Objective of the Study/Systematic Review:**

This systematic review summarized the findings of randomized controlled trials that sought to identify interventions that improve patient compliance with prescribed antipsychotic medication regimes.

**Study Design:**

This article is a systematic review that included research articles with randomized controlled trials only. The outcome measures comprised original data with at least one measure of medication compliance.

**Search Strategy:**

- Keywords included:
  - Subset A included: schizophrenia, psychosis, enduring mental illness, functional disorder, seriously mentally ill.
- Subset B included: compliance, non-compliance, non-adherence, adherence, refused treatment
- Subset C included: nurse intervention, health education, counselling, patient education, cognitive behaviour therapy, family, treatment, care, psychosocial intervention.
- Subset D included: randomized controlled trial, controlled trial, RCT and clinical trial.

- Databases searched include:
  - CINAHL, British Index, Psycholit Conchrane Library, Medline, and Best Evidence.
  - Studies were also sought from article bibliographies
  - Hand searching was conducted in:
    - Acta Psychiatrica Scandinavica, Archives of General Psychiatry, and British Journal of Medical Psychology
  - The researcher also wrote to principle authors identified in the review.
  - Non-English language studies were not excluded, though none were identified as meeting the inclusion criteria in the search.

Selection Criteria
A total of 206 articles were retrieved through the database search using the keywords. The abstracts of the articles were reviewed independently by two reviewers who determined that 31 articles merited full scrutiny. Only 4 articles were selected for consideration by hand searches. In total, 35 articles were identified as requiring further scrutiny and these full texts were independently reviewed. In all, 14 articles met the inclusion/exclusion criteria; 6 of the 14 were excluded on more detailed inspection during data extraction because of methodological flaws including absence of a suitable control group, very small sample size, failure to adequately randomize the participants, failure to report demographic details, and failure to include baseline scores, which made further evaluation impossible. An independent third reviewer acted as an arbiter on any paper over which the reviewers disputed. After data review/extraction, 8 trials remained (Dodds et al., 2000).

Description of Studies
Participants’ ages ranged from 18 to 65 years and included male and female; two studies looked at male patients only (Boczkowski 1986, Zhang et al. 1994). The majority of the participants had a DSM III or DSM III-R diagnosis of schizophrenia. Most were prescribed neuroleptic medication, only two of the eight studies (Kemp 1996, Streicker 1986) included people taking mood stabilizers and antidepressants, again these were in minority. The settings of the studies vary, covering acute inpatient, rehabilitation, and community and outpatients. Studies ranged from England, America, Germany, and China.

Methods
Basic compare and contrast methods were used to analyse the articles in this review. Things such as the duration of the intervention and control, and well as the type of interventions were analysed. Additional analyses such as effect size and confidence intervals were not conducted.

Intervention Investigated
This systematic review analysed the interventions in the selected articles including, individualized and group-based interventions. Four studies had an educational component, one with a behavioural tailoring component, family intervention in two of the articles, and compliance therapy in the last two articles. The duration of treatment varied from one didactic psychoeducational session, to as many as ten sessions. The review does not state who
administered the interventions in these studies, but the writer assumes that a nurse has done it because the articles are published in journals related to nursing.

**Outcome Measures**

The outcome measures comprised original data with at least one measure of medication compliance. Definitions of compliance were diverse across the studies, including different outcome measures. Subjective reporting from both the subject and other key persons was carried out in all studies except Zhang (1994) and Xiang et al. (1994). Boczkowski (1995) used pill counts to determine compliance. A 7-point Likert scale was used in Kemp (1996, 1998).

**Main Findings:**

Table I: Key characteristics and findings of the eight studies are summarized below

<table>
<thead>
<tr>
<th>Trial</th>
<th>Intervention</th>
<th>Duration of intervention</th>
<th>Control</th>
<th>Duration of control</th>
<th>Effect on compliance</th>
<th>Sample characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boczkowski et al. (1985)</td>
<td>Psychoeducation (PE (n=12))</td>
<td>1 session plus written information</td>
<td>Discussion (n=12)</td>
<td>Treatment as usual plus one non-specific meeting with researchers</td>
<td>PE=no</td>
<td>Male subjects only</td>
</tr>
<tr>
<td></td>
<td>Behavioural-tailoring (BT)(n=12)</td>
<td>Sustained support over study</td>
<td>Leisure sessions (n=64)</td>
<td></td>
<td>BT=yes</td>
<td>Location: Georgia, USA</td>
</tr>
<tr>
<td>Hornung et al. (1998)</td>
<td>Psychoeducation medication training (n=84)</td>
<td>10 sessions</td>
<td>Leisure sessions (n=64)</td>
<td></td>
<td>Control=no</td>
<td>Male and female subjects</td>
</tr>
<tr>
<td>Kemp et al. (1996)</td>
<td>Compliance therapy (n=25)</td>
<td>4–6 sessions counselling</td>
<td>Non-specific sessions (n=22)</td>
<td>4–6</td>
<td>Yes</td>
<td>Female subjects</td>
</tr>
<tr>
<td>Kemp et al. (1998)</td>
<td>Compliance therapy (n=25)</td>
<td>4–6 sessions counselling</td>
<td>Non-specific counselling (n=22)</td>
<td>4–6</td>
<td>Yes (18-month follow-up)</td>
<td>Male and female subjects</td>
</tr>
<tr>
<td>Macpherson et al. (1996)</td>
<td>Psychoeducation</td>
<td>1 session (n=22)</td>
<td>No sessions</td>
<td>NA</td>
<td>No effect between any groups</td>
<td>Male and female subjects</td>
</tr>
<tr>
<td>Streicker et al. (1986)</td>
<td>Medication education (n=40)</td>
<td>3 sessions (n=22)</td>
<td>Regular services, no medication education (n=35)</td>
<td>Treatment as usual</td>
<td>No</td>
<td>Location: England, UK</td>
</tr>
<tr>
<td>Xiong et al. (1994)</td>
<td>Family intervention (n=34)</td>
<td>Monthly 45 minute counselling sessions and family</td>
<td>Standard care (n=29)</td>
<td>Treatment as usual</td>
<td>No</td>
<td>Male and female subjects</td>
</tr>
<tr>
<td>Zhang et al. (1994)</td>
<td>Family intervention (n=42)</td>
<td>Support &quot;Regular&quot; family counselling</td>
<td>Standard care (n=41)</td>
<td>Treatment as usual</td>
<td>No</td>
<td>Male subjects</td>
</tr>
</tbody>
</table>

*Note: Full reference list which includes excluded studies is available from the authors.*

Prepared by Julie Flynn, OTS (12/01/09)
Original Authors’ Conclusions

Of the eight studies reviewed, six showed increases in medication compliance, however only three of these reached statistical significance (Kemp et al., 1996, 1998 & Boczkowski et al, 1985). Compliance therapy, described as a “brief pragmatic intervention-based upon motivational interviewing and cognitive behavioural therapy with an educational component,” was the most complex of the interventions tested. “It showed significant increases in compliance rates, which appeared to be sustained over time.” It is reported to be more cost-effective then other non-specific counselling (Kemp et al., 1996, 1998) (pg. 51). In the study conducted by Boczkowski et al., the behaviour-tailoring group had statistically significant increases in medication compliance rates, but follow-up was only conducted for 3 months.

“The review concludes with suggesting that individualized approaches, with specifically tailored interventions are most effective in improving compliance. Knowledge regarding medication alone is not significantly useful; however, when combined with cognitive and behavioural components, the results are more favourable. Larger field studies are needed regarding medication compliance. A collaborative approach to care is also recommended, allowing the patient to take part in treatment planning” (pg. 52).

Critical Appraisal:

Validity

- The reviewers addressed a focused clinical question
- Hand searching of articles and a search in non-English studies was conducted.
- An exhaustive literature search was conducted to identify the most relevant studies. Many of the original articles found were excluded due to methodological flaws. Independent reviewers analysed the selected article. When reviewers were in disagreement, an independent third reviewer analysed the article.
- Self-reports, a less reliable source for data collection, were used in five of the eight studies (Bockowski 1985, Streicker 1986, Kemp 1996, 1998, Hornung 1998).

Interpretation of Results

This writer believes that the researchers of this review closely examined each of the selected articles, determining strengths and weaknesses, and concluding with which are most effective. Though this review identifies compliance therapy as an effective intervention to increase medication compliance, this writer believes that results are inconclusive based on current literature about this topic. At the time this review was published, it stood as the best evidence for determining which interventions would increase medication compliance among individuals with schizophrenia. However, more recent studies have been conducted resulting in contradicting results.

Summary/Conclusion:

For individuals diagnosed with a mental illness, compliance to medication regimens may be difficult to follow for a number of reasons that many other research studies have investigated. Lack of compliance contributes to hospital admissions and care from mental health facilities. This review identified eight articles in literature databases that met inclusion criteria, posing as a beneficial intervention to increase compliance. Only three of the eight studies were identified as beneficial (Kemp 1996, 1998, Boczkowski 1985). Further research is needed in this area to come up with stronger evidence indicating that these identified interventions are clinically appropriate.
### Table II: Characteristics of Included Studies

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention Investigated</td>
<td>5 interventions to increase compliance</td>
<td>Compliance Therapy</td>
<td>Compliance Therapy</td>
<td>Compliance Therapy</td>
<td>Compliance Therapy</td>
</tr>
<tr>
<td>Comparison Intervention</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
| Outcomes Used             | This systematic review required that each article have at least one outcome that measured medication compliance. | This systematic review required that each article have at least one outcome measure of compliance with prescribed medication and a measure of psychotic symptoms. | -Brief Psychiatric Rating Scale  
-Global Assessment of Functioning  
-National Adult Reading Test  
-Drug Attitudes Inventory  
-Semi-structured Interview  
-Questionnaire (developed by researchers)  
-7-point compliance rating scale | -Structured Clinical Interview  
-4-point Compliance Scale  
-Drug Attitude Inventory  
-Positive and Negative Symptoms Scale  
-Schedule for Assessment of Insight  
-Global Assessment of Functioning  
-Heinrichs Scale  
-National Adult Reading Test  
-Shortened Version of the DAI-10  
-7-point compliance rating scale |
| Findings                   | Kemp et al. (1996, 1998) and Boczkowski et al. (1985) resulted in improvements in medication compliance. All other interventions such as family interventions were deemed as ineffective. | Results of Kemp et al. (1998) and O’Donnell et al. (2003) are inconclusive. | Compliance therapy increased insight, attitudes, and compliance compared to non-specific counselling. | Compliance therapy is not effective at improving medication adherence. | Compliance therapy results in a statistically significant improvement in adherence to medication. |
IMPLICATIONS FOR PRACTICE, EDUCATION and FUTURE RESEARCH

- A review of the five included studies shows that more research is necessary to determine if compliance therapy is indeed effective at increasing medication adherence for individuals with schizophrenia.
- Compliance therapy is an effective intervention to increase medication compliance, as well as improved insight and attitudes, according to Kemp et al. (1996). Tay (2007) concludes that compliance therapy improves the outcomes measured in the study.
- The systematic review was written in 2000, and since then new evidence has been published with contradictory results. Ilott (2005) concludes that the effectiveness of compliance therapy is inconclusive. O’Donnell (2003) states that compliance therapy is not effective at improving medication compliance.
- There seems to be a lack of uniformity in defining and administering compliance therapy across the articles reviewed, contributing to the inconclusiveness of the results.
- Though it does not specify, occupational therapists could administer this type of intervention in mental health settings. The literature does not specify qualifications for the person administering compliance therapy.
- Compliance therapy can be administered in a variety of settings including inpatient hospitals, outpatient, and community settings.
- Further research is necessary to investigate the effectiveness of compliance therapy.
- Studies with a larger sample size, more reliable outcome measures, and a more standardized administration may result in stronger evidence supporting compliance therapy.
- Overall, compliance therapy is an intervention that is cost-effective, compared to other interventions such as electronically monitoring pill counts.
- Administration of compliance therapy despite a lack of evidence would not result in harm done to patients. Clinicians could try this intervention, though improvement in compliance with medication is not guaranteed.
REFERENCES


