Partial versus full hospitalization for adults in psychiatric distress: a systematic review of the published literature (1957 - 1997)
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Authors' objectives
To compare partial with full hospitalisation for mentally ill adults.

Searching
MEDLINE (from 1966 to October 1998) and PsycLIT (from 1984 to October 1998) were searched; Psychological Abstracts (from 1945 to 1966) was handsearched. The search terms were stated. In addition, the reference lists in identified reports were checked. Only studies published in the English language were eligible.

Study selection
Study designs of evaluations included in the review
Studies of any design were eligible for inclusion. The included studies were randomised controlled trials (RCTs), studies with matched control groups, observational studies and other studies of non-randomised design.

Specific interventions included in the review
Studies that compared partial with full hospitalisation were eligible for inclusion. Studies in which all the patients were initially treated in hospital were only included if the hospital stay was 4 days or less. The included studies varied in the degree of family involvement (19 to 87%) and used diverse or nondirective programmes.

Participants included in the review
Studies of adult patients with primary psychiatric diagnoses other than substance abuse were eligible for inclusion. The exclusion criteria of the included studies varied from none to severely ill with or without cognitive impairment. The severity of illness in the participants varied widely. Studies of partial hospitalisation programmes for children, adolescents, and patients aged over 65 years were excluded.

Outcomes assessed in the review
Studies that only assessed the use of the service were excluded. The review assessed the following outcomes: psychopathology, social functioning, family burden, satisfaction with the services and service utilisation.

In the included studies, psychopathology and social functioning were measured using standardised instruments, such as the Present State Examination and the Social Behaviour Assessment Scale, and non-standardised measures. The latter included an assessment of psychiatric status and the quality of the patient's family relationships, and measures of behaviour (e.g. employment rate and rate of self-mutilation). Family burden was measured using the burden subscale of the Social Behaviour Assessment Scale. Satisfaction with the services provided was measured using standardised measures, such as the Satisfaction With Services Scale and a questionnaire on attitudes towards mental institutions, and non-standardised measures of programme satisfaction and preference. Service utilisation was measured for the index admission and using cumulative rates of hospitalisation and community tenure.

The review classified the outcomes as global, partial and rate-based. The outcomes were assessed for different time intervals after discharge: 0 to 6 months, 7 to 12 months, and 13 to 18 months.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
Validity was assessed and scored to a maximum of 15 points using the following criteria: validity, generalisability, quality of the methods used to measure the outcomes, and quality of the statistical analysis. The studies were then
classified as poor (0 to 5 points), good (9 to 12 points) or excellent (13 to 15 points). One author assessed validity.

**Data extraction**

One reviewer extracted the data onto a standardised form and a second reviewer helped resolve statistical questions. Effect sizes (ESs) and confidence intervals (CIs) were estimated for each study using mean values and standard deviations, where reported, or from the statistical results presented where these values were not reported. The rates of exclusion, attrition and transfer were estimated (details of the definitions used in the review were given).

**Methods of synthesis**

How were the studies combined?

Where there were sufficient data, the studies were grouped by type of measure (global, partial and rate-based) and the timing of the assessment. Pooled ESs and 95% CIs were estimated for partial compared with full hospitalisation using a random-effects model. The pooled ES was weighted using within- and between-study variation. The 95% CIs were adjusted for multiple comparisons using a Bonferroni correction.

How were differences between studies investigated?

The influence of each study on the results was explored by excluding each contributing study in turn. The results were only considered to be positive if they were statistically significant after the removal of each study in turn.

**Results of the review**

Eighteen studies were included: 10 RCTs (1,474 patients), 4 studies of matched design (278 patients) and 4 observational or other non-randomised studies (698 patients). The number reported was the number of patients at baseline.

Eleven studies were rated as fair quality and two were rated as poor quality. Several methodological problems were evident: the lack of baseline comparability between the treatment groups; the lack of a blinded outcome assessment; high drop-out rates; inadequate information; selective reporting of statistically significant results; and the use of outcome measures of unknown validity. The generalisability of the results was limited by high exclusion rates (the median was 56% for RCTs) and a high rate of transfer to a hospital.

There were more male patients and psychotic patients in the full hospitalisation treatment groups.

Psychopathology and social functioning: there was no difference between partial and full hospitalisation in any of the global, partial or rate-based effect measures for psychopathology or social functioning.

Social functioning (3 studies): partial care appeared to significantly improve rate-based measures of social functioning in the short term (0 to 6 months), but this was sensitive to the removal of any of the three contributing studies. The difference was not significant in the longer term.

Family burden (1 study): the study found no significant difference in global outcomes.

Satisfaction with services: there was no difference between partial and full hospitalisation in global outcomes. Partial care appeared to significantly increase rate-based measures of satisfaction within 1 year of discharge; the ES at 7 to 12 months (6 studies) was 1.56 (95% CI: 0.96, 2.16). The significant increase after 18 months was sensitive to the removal of either of the two contributing studies.

Service utilisation (2 studies): there appeared to be no difference between partial and full hospitalisation in any of the global, partial or rate-based effect measures for service utilisation. Any initially significant findings were sensitive to the removal of one study.

**Authors' conclusions**

The outcomes were similar for partial and full hospitalisation. Partial care increased user satisfaction in the short term.
The authors added that methodological flaws in the included studies limit the generalisability of the results, and that further research is required.

**CRD commentary**

The review question was broadly defined in terms of the intervention and participant and studies of any design were eligible. However, the inclusion criteria were not defined in terms of the outcomes. Three relevant sources were searched and the search terms were stated. Some relevant studies may have been omitted by limiting the included studies to those in English. No attempt was made to locate unpublished studies, thus raising the possibility of publication bias. The methods used to select the studies were not described; hence, the adequacy of the methods used cannot be judged. Only one reviewer extracted the data and assessed validity, and this lack of duplication may lead to errors and bias. Validity was assessed using validated criteria. The methodological limitations of the included studies were discussed.

The data were combined in a meta-analysis but statistical heterogeneity was not assessed. However, a sensitivity analysis was used to test the robustness of the results to the exclusion of each study. The authors discussed the limitations of the evidence. The evidence presented appears to support the authors' conclusions.

**Implications of the review for practice and research**

**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that further studies in this field should be well designed and adequately reported. They stated that research is required to identify the patient and programme characteristics that predict response to partial care, and to assess user satisfaction in current health care systems. The authors also stated that the relative cost-effectiveness of partial and full hospital care needs to be assessed.

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