

REVIEW

Adherence to recommendations of community-based comprehensive geriatric assessment programmes

FARANAK AMINZADEH

Regional Geriatric Assessment Program of Ottawa-Carleton, Queensway Carleton Hospital, 3045 Baseline Road, Nepean, Ontario K2H 8P4, Canada

Address correspondence to: F. Aminzadeh, Bell Mews, 39 Robertson Road, Suite 100, Nepean, Ontario K2H 8R2, Canada. Fax: (+1) 613 820 6659. Email: faminzadeh@qch.ochin.on.ca

Abstract

Background: non-adherence to the recommendations of short-term community-based consultative comprehensive geriatric assessment programmes is a threat to the effectiveness of these programmes.

Objective: to synthesize the literature on patient and physician adherence to recommendations of community-based comprehensive geriatric assessment programmes.

Method: I identified papers cited by an English language literature search of MEDLINE, Health Star and CINAHL databases from January 1980 to November 1999. This search was supplemented with literature identified from the reference sections of these publications.

Results: patient adherence rates ranged from 46 to 76%, which approximates to the rates for the consulting physician adherence (49–79%). I identified many characteristics of patient, treatment, care provider and clinical setting which influenced adherence. Understanding these factors has led to the development of adherence-enhancing strategies. However, without systematic evaluations it is difficult to evaluate the relative effectiveness of these interventions.

Conclusion: further research which targets more representative samples and uses validated assessment tools and multiple data collection methods is needed to expand our knowledge of patterns and predictors of adherence and to evaluate the relative effectiveness of adherence-enhancing intervention strategies.

Keywords: *compliance, comprehensive geriatric assessment programmes*

Introduction

A growing recognition of the complexity of the care needs of older people, coupled with increasing evidence of the effectiveness of comprehensive geriatric assessment (CGA) programmes, has resulted in a more prominent role of these services. Meta-analyses of clinical trials suggest that frail older people may derive a variety of health benefits from these specialized services. These include improved diagnostic accuracy, enhanced functional status, decreased use of acute and long-term institutional services and prolonged survival [1–4]. However, these positive outcomes have not been consistently demonstrated across studies. In particular, there is conflicting evidence on the effectiveness of short-term outpatient consultative services [1–16]. Non-adherence to discharge plans is a

major barrier to the success of these programmes [14, 17–22].

I have reviewed the literature on patterns and predictors of patient and primary-care physician adherence to the treatment plans recommended by outpatient CGA programmes. I identified papers cited by an English language literature search of MEDLINE, Health Star and CINAHL from January 1980 to November 1999. I supplemented the search with literature identified from the reference sections of publications.

Physician adherence

The primary-care physician has a key role in the implementation of treatment plans generated from a

CGA programme. Several studies have examined adherence of consulting physicians to community-based CGA programmes [19–21, 25–27]. As can be seen from the summaries in Table 1, these studies have found physician adherence rates of 49–79%.

Factors positively associated with physician implementation of the CGA recommendations include verbal and written communication between physicians [14, 21, 29, 30], prioritizing and limiting the number of recommendations [21, 30], physician satisfaction with the programme [31], the physician being a woman [29], fewer years in practice [31], illness severity [29], perceived cost effectiveness of the recommendation [29] and anticipated legal liability resulting from non-adherence [29].

The type of consultative advice offered by the CGA programmes also strongly influences implementation. For instance, there is evidence of a greater likelihood of physician adherence to advice on medication management and illness-related evaluations than preventive recommendations [19, 27, 32]. Moreover, adherence seems to be higher for recommendations that are practical, easy to perform and require limited time and effort to implement [27, 31]. Similar factors have been identified in studies of general medicine consultative services [32, 33]. The broad scope of geriatric consultation and the chronic nature of many geriatric conditions may present additional barriers to physician adherence [29].

Patient adherence

Rates of patient adherence to the recommendations of community-based CGA programmes (Table 1) range from 46 to 76%. The rates approximate to those of primary-care physicians and are higher for medical recommendations (range 64–74%) than social and self-care recommendations (range 46–67%). The differences in findings across studies are related in part to diversity in study design, length of follow-up time and in operational definitions of adherence and criteria used to categorize different types of recommendations.

Patient adherence to treatment plan is multifactorial and can be influenced by various characteristics of patient, treatment, care provider and clinical setting [34–36]. Previous research in older people has failed to identify sociodemographic characteristics associated with adherence [17, 22]. Similarly, investigations of the relationship between illness-related characteristics and older patients' adherence have been inconclusive. While in two studies [17, 21], greater physical, functional and mental health problems were associated with higher adherence rates, others have reported opposite results [25, 37–39].

There are several explanations for these contradictory findings. Illness-related factors may affect adherence in different ways. On one hand, they may

positively influence perception of need for the prescribed treatment plan; on the other hand, they may negatively affect the individual's capabilities to follow the plan. Poor adherence of frail older people may indicate perceived or actual limitations in the resources needed to implement the recommendations. It may also reflect underlying feelings of helplessness, fear of illness and desire to take control over debilitating illnesses [36, 40]. Many publications support the key role of patient health beliefs on decisions to accept or reject prescribed interventions [34–37, 40, 41]. Disagreement on the benefits of the recommendation has been consistently reported as the primary reason for non-adherence to the advice given by the CGA programmes [17, 25, 28].

The role of social support is critical for frail older people, who often depend on others [17, 34]. Caregivers can enhance the understanding of the prescribed actions and provide direct assistance to facilitate adherence. In one study, older patients living with their family were more likely to comply with medication than those living alone [36, 38]. In another study, older patients who perceived they had access to transport and to an accompanying caregiver were more likely to adhere to the prescribed services [37]. Older alcoholics whose spouse participated in the treatment program were more likely to complete the program than those whose spouse did not participate [42]. Interestingly, in Frank and colleagues' research, high level of support improved adherence only with the low difficulty recommendations of a CGA programme and had no impact on adherence with what were classified as 'high difficulty behaviours' [25].

There is much empirical evidence on community-based CGA programmes that points to lower patient adherence to psychosocial and health protective interventions (use of support services, changing addictive behaviours, dietary modification and safety actions) compared with medical and drug advice [17, 19, 21–23, 26, 28]. In addition to attitudinal factors (e.g. placing greater importance on medical interventions), this may be a result of the greater difficulty for patients of long-term self-care behaviours that often require lifestyle changes [43]. Consistent with research on physician implementation, patient adherence to the CGA programmes is positively associated with low level of difficulty [17, 25, 27] and lower total number of recommendations [21]. Similar findings have been reported in other patient populations [34, 35].

Many aspects of the encounter between patients and care providers can influence patients' understanding of the treatment plan, their reaction to the consultation and their motivation to follow recommendations. Communication during the visit is an important determinant of patient satisfaction which, in turn, influences adherence behaviours [34, 35, 44]. Among factors consistently reported to have a negative effect on patient satisfaction are brevity of encounter, lack of

rapport and long interviews without provision of adequate feedback [35, 45]. On the other hand, expression of caring, positive feedback, providers' recognition of adherence difficulties and their desire to facilitate patient implementation promote adherence [34, 44, 46].

In a study of post-visit recall of medication and lifestyle recommendations made to 83 older outpatients, patterns of communication during the visit were more strongly related to recall than patient's age, affective states or cognitive functioning [47]. Increasing patient supervision (either through hospitalization or frequent follow-up visits), taking early steps to facilitate implementation and ensuring continuity of care are among characteristics that enhance patient adherence [34, 37].

Adherence enhancement interventions

A recognition of factors associated with low adherence has led to the development of strategies to facilitate implementation. However, the relative effectiveness of these interventions has not been adequately evaluated. With regard to patient adherence, a commonly recommended strategy is to develop a realistic treatment plan based on an understanding of the patient's beliefs, expectations and perception of resources [21, 27, 45]. Providing specific and concrete information about the prescribed treatment, involving family caregivers and monitoring adherence through reminder calls and follow-up visits are among other strategies recommended [21, 23, 28, 34].

As many as half of the instructions given by physicians cannot be recalled accurately by patients almost immediately after the visit, and 20–50% of patients do not read written materials when provided [34, 35, 47]. Therefore, a combination of methods should be used to achieve effective communication. This is particularly important for older people, who are at greater risk for sensory and cognitive deficits. The provision of a family meeting at the end of the assessment is a benchmark of high-quality geriatric care [48].

Moreover, simplifying the treatment plan by prioritizing interventions, dividing the regimen into stages, providing specific practical instructions on how to incorporate the treatment plan into daily routines, and taking early steps to minimize inconveniences can facilitate implementation [34, 35]. In a study of frail older people's adherence to the recommendations to use services, having the staff make a follow-up appointment with the patient's family physician before discharge and streamlining with other service providers increased the overall adherence up to sixfold [37].

Similar strategies have been used to facilitate physician implementation of CGA programmes. For

instance, effective geriatrician–physician communication (telephone contacts, personalized follow-up letters etc.), provision of specific advice central to the reason for consultation, limiting the number of recommendations, use of physician educational strategies (such as mailing relevant published references) and patient empowerment interventions (provision of a handbook on 'how to talk to your doctor', a phone call from the geriatrician and a letter to discuss recommendations or a call from a health educator to coach the patient) are among strategies recommended [14, 21, 29, 30]. Use of patient empowerment techniques to enhance physician implementation is supported by a study that found an 11-fold increase in the physician adherence to the recommendations of a consultative outpatient CGA when the patient specifically requested the treatment [29].

Conclusion

Non-adherence to the recommendations made by consultative, short-term, community-based CGA programmes is a serious threat to the effectiveness of these services. A shortened assessment process in these settings often limits the opportunity to educate, initiate early implementation and monitor continuing adherence. With increasing cost of health-care services, there has been growing interest in less expensive, community-based CGA programmes as feasible alternatives to more resource-intensive inpatient geriatric services. This points to a pressing need for research to improve our knowledge of strategies to promote programme effectiveness.

Low adherence to treatment plan not only has a negative impact on outcomes of care for individual patients, but also limits the ability to interpret accurately the findings of outcome research. Clinical trials of programme effectiveness should perhaps not be published without adequate assessment of adherence behaviours [35, 45]. Unfortunately, few studies link adherence to clinical outcomes in community-based CGA settings.

Moreover, adherence research in these settings suffers from important methodological limitations. In most studies, patients are recruited from a single site (usually urban), which limits the generalizability of the findings. Furthermore, small sample sizes preclude the ability to detect significant predictors of adherence. Lack of a common operational definition of adherence (inclusion of partial adherence in the calculation of adherence rate in some studies and use of less inclusive definitions in others) and differences in data collection methods and follow-up times make it difficult to make comparisons across studies.

The methods used for data collection can result in bias both in reporting and recording of adherence rates. To date, adherence research has primarily relied

Table 1. Summary of patient and physician adherence studies of community-based comprehensive geriatric assessment (CGA) programmes

Study	Setting	Design	Sample size	Intervention	Data collection	Follow-up	Distribution of recommendations	Adherence rate	
								Patient	PCP
Reuben [20]	Outreach community-based CGA	Prospective	$n = 177$	Half-day evaluation concluding with a FC; provided PCP education and patient empowerment interventions	Telephone interview with patient at 3 months, home visit at 15 months	3 and 15 months	Not reported	61% self-care, 67% PCP-initiated	59%
Alessi [23], Rubenstein [24] ^a	Home-based CGA	Prospective	$n = 202$	Annual in-home evaluation and quarterly follow-up home visits	Home visits by a nurse specialist	3 years	51% self-care; 29% referral to physicians; 20% referral to non-physicians	64% referral to physicians, 46% referral to non-physicians, 54% self-care	-
Frank [25], Reuben [21], Shah [26] ^a	Outreach community-based CGA	Prospective	$n = 139$	Half-day evaluation concluding with a FC; provided PCP education and patient empowerment interventions	Interviews in clients' homes or senior centres	3 months	59% PCP-initiated; 41% self-care	52% self-care, 74% PCP-initiated	79%
Cefalu [27]	Outpatient CGA clinic	Retrospective	$n = 23$	Half-day evaluation concluding with a FC; referring PCP received a written report	Chart review	-	Not reported	-	49%
Devor [17]	Outpatient CGA clinic	Prospective	$n = 124$	6-week evaluation concluding with a FC; PCP received a written report	Telephone interview by nurse specialist or physician	3–21 months	100% social/safety	50%	-
Weinberger [22]	Outpatient CGA clinic	Prospective	$n = 69$	Half-day evaluation; patient received education material and summary of recommendations; phone or clinic follow-up visits; PCP received a letter and a copy of consultation notes	Telephone interview by research assistants	1 year	70% medical; 30% social	67% social; 67% medical	-

Fabacher [28]	Home-based CGA	Prospective	n = 131	Home evaluation by a research nurse or physician's assistant; quarterly follow-up by volunteers; patients received written summary of recommendations	Home visits by volunteers	1 year	40% referral to professionals; 60% preventive practices	80% referral to professionals, 57% preventive practices	-
Reed [19]	Outpatient CGA clinic	Retrospective	n = 27	Family practice resident involved in evaluation subsequently served as PCP and made follow-up visits	Chart review	-	Not reported	-	69%

^aMultiple reports from a single cohort. FC, family conference; PCP, primary-care physician.

on patient interviews to determine patient (and in some cases physician) adherence. Inaccuracies inherent in self-reports are a threat to reliable measurement. A few studies have used chart reviews to ascertain adherence. This method is even more limited, in that the status of many recommendations (particularly social and self-care behaviours) are often inconsistently documented in patient records.

Multi-site research projects recruiting larger, more representative samples and using validated assessment tools and multiple data collection methods are needed to expand our knowledge on rates and predictors of adherence. Future research should also develop feasible and effective adherence-enhancing strategies and evaluate the relative effectiveness of each intervention.

Key points

- Patient adherence rates in studies of community-based comprehensive geriatric assessment programmes range from 46 to 76%, which approximate to the rates for consulting physician adherence (49–79%).
- Many characteristics of patient, treatment, care provider and clinical setting can influence adherence.
- Recommended strategies to improve patient adherence include: developing treatment plans based on an understanding of patient beliefs and resources, using a combination of methods to communicate the plan effectively, simplifying the plan and taking early steps to facilitate implementation, and creating a continuum of formal and informal support to carry out the plan.
- Physician adherence-enhancing strategies include: effective geriatrician–physician communication, prioritizing and limiting the number of recommendations and using physician education and patient empowerment strategies.
- More research is needed to evaluate the relative effectiveness of these intervention strategies.

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