Guest Lecture

Hospital at Home: What Is It?

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Introduction

The elderly face many problems relating to access to health care, especially when hospitalization is required. These problems include inability to physically travel to the hospital, and also involve availability of family members, and finances. Hospital based care of acute illness has many advantages related to concentration of facilities and staff under one roof. On the other hand, several outcomes of hospital based care have led to dissatisfaction, particularly in the elderly. These include high costs, imposition of barriers between family and patients, nosocomial infections, delirium, medication errors, functional decline and unnecessary tests and treatments, to name a few.[1]

While general practitioners have been visiting patients at home for centuries, the practice is declining due to high costs in time and finances. Moreover the general practitioner may have neither the allied health team, nor the expertise, to deliver tertiary level care at home. For these reasons, many attempts are being made to take the hospital to the home in certain defined acute problems.[1] A few formal studies of the efficacies of these models of care are available.[2, 3]

There are challenges regarding setting of standards of care, formulating appropriate business models, and training of the increased numbers of health care personnel needed to deliver this type of care. Additionally, how this could be integrated into the existing health care system needs to be planned out.

Description of "Hospital at home"

When a elderly person suddenly falls ill, a quick medical assessment can reveal that the ill patient is not critically ill and does not require intensive care. Such elderly patients can avoid admission if the treatment can be delivered at home. These medical treatments are outlined below:[1]

1. Procedures such as Intravenous antibiotics, and intravenous infusions, bladder catheterization, wound dressings, aerosol nebulisation, ryles tube feeding
2. Physiotherapy for mobilization, pain relief
3. Collection of samples for investigations
4. Daily, or as needed, visits by medical personnel to assess patient's progress. Some monitoring can be done by telephony.

Notably, intensive and emergency care are not part of this model of health care, but could be conceived of in special situations.

The situations in which these therapies could be delivered are:

1. Early discharge to home of a post-operative patient, or a patient recuperating from a serious illness from which he has stabilized, but requires completion of treatments.
2. Prevention of hospitalization altogether if disease can be identified as one which could be treated at home. This could occur at the level of an emergency department, or by the doctor doing a home visit. Examples are, cellulitis, community-acquired pneumonia, acute exacerbation of COPD, heart failure, dehydration, urinary tract infection etc,
3. Regular home visiting of patients suffering from single organ failure such as chronic kidney disease, heart failure, stroke, dementia, debilitating Parkinson's' disease etc, so that any change from baseline can be detected early and treated, at home, failing which hospitalization may be required.
4. Terminally ill patients for palliative care.

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Infra-structure requirements for hospital at home

The provision of these types of treatments would require easy and cost-effective availability of:

1. A cadre of nursing staff, physiotherapists, doctors. These could be hospital based teams which actively promote early discharge and then extend their services to the home. Alternatively, multi-disciplinary community-based stand-alone teams could deliver care. With the availability of technology, health records could be easily accessible. In India, several private players are offering these services, but their activities and outcomes have not been studied.
2. Easy accessibility of hardware resources such as hospital cots, oxygen cylinders, oxygen concentrators, nebulization apparatus, dressing sets, IV and catheter sets, alpha mattresses etc. Some of these should be available for hire if short term use is envisaged.

Financial implications

There are no clear indications that this model of care involves less cost to the patient. One study has claimed 19% lower costs when compared to patients treated as in patients, with equal or better outcomes.[4] On the other hand there are reports that lower costs may not be reproduced in all cases.[3] The lack of insurance funding is a problem because at this time most insurance policies require hospital-based billing. The need now is to articulate a formal concept of hospital at home services and plan insurance policies around this. Out of pocket payment at the point of delivery of the service could turn out to be beyond the reach of most elderly.

Outcomes of hospital at home service

Outcomes of home based services have been mixed. Caplan et al claim a 24% reduction in readmission to hospital, and a 20% reduction in mortality when compared to patients treated in hospital.[2] On the other hand, Sheppard et al found conflicting benefit in stroke patients, and did not support it as a cheaper care model.[3] While patients expressed more satisfaction, the carers themselves were less satisfied.[3]

Projections for the future in the Indian context

The extension of hospital type services to the home is a model which needs to be actively promoted in India, with special reference to the elderly. Post natal care, palliative care, and rehabilitation of the disabled are some other scenarios where the model would be helpful. As mentioned above, the financial structures, standards of care and legal issues need to be worked out. While the private sectors can deliver the services, only the public health system, or at best public-private partnerships can scale up the services to meet the needs of the 100 million aged persons in India. Integrated multi-disciplinary acute care teams, with access to information technology, and resources of drugs, and medical equipment need to be formed and trained. These teams should also be able to function as care teams with a health promotion and disease prevention objectives, not merely curative aspects.

Underpinning all the models, the key to success depends on how well the training is imparted about special health needs of the elderly. Hence pilot teams headed by experienced physicians and allied health workers must start the process, disseminate their experience, and then scale up the best models of care.

Key Take Home messages

1. Reducing or avoiding hospitalization in acute illness in the elderly is cost effective and may decrease mortality.
2. Specific defined illnesses can be treated at home, and these patients need to be identified.
3. Financial models of care and integration into current health systems need more planning and research.

References

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