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Stroke Units in Italy

Abstract It is well known that stroke is associated with high morbidity and mortality. Previous studies and meta-analysis provide evidence favouring care of stroke patients in Stroke Units (SU). We published data on SU coverage for seven Italian regions during 2000-2001. The aim of this study is to conduct a new recent survey of SUs in the entire national territory and to evaluate changes in number of SUs and in organisation of in-hospital care in the seven Italian regions evaluated in our previous survey. Hospital services were identified through the diagnosis-related groups (DRG 14) from national hospital discharge registers. We selected services recording at least 50 acute stroke discharges per year. The characteristics of hospital services were obtained from a structured questionnaire submitted by phone by trained researchers to the doctors in charge of services. A SU was defined as a ward that admits acute stroke patients cared for in dedicated beds and by dedicated staff. Out of 676 hospital services evaluated during 2003-2004, 68 were SUs. The national coverage for SU services was 10%, ranging from 0% to 50% in different regions. In 2003-2004 SUs admitted 10% of the total national acute stroke cases. SUs have a more facilitated access to diagnostic evaluations and also seem to be better organised than general wards. Between 2000 and 2004 the number of SUs increased from 7% to 11% in the seven regions evaluated in our first sur-

vey. Notwithstanding we found an increase of 30% in the number of SUs, at least in the regions previously evaluated, there is still a shortage of SU beds and high regional heterogeneity.

Key words Acute stroke • Organisation of care • Stroke Unit

Introduction

It is well known that stroke is the third leading cause of death and disability in most industrialised countries. The incidence of stroke is about 280/100 000 new strokes per year in Europe and approximately 130 000 new strokes per year in Italy. The result of the meta-analysis of available randomised controlled trials has shown that care of stroke patients in specialised stroke care units reduces mortality, institutionalisation and dependency [1]. Notwithstanding some previous studies reporting information about acute stroke care in some regions of Europe, few data still exist on the quantity and quality of stroke care and management within Europe [2].

We conducted a previous stroke unit survey (the PROSIT study) in 2000-2001 in seven Italian regions [3] and identified 424 stroke services, observing that only the 7% of services evaluated had a Stroke Unit (SU) and less than 10% of acute stroke patients were admitted to SU. The aim of this paper is to present the preliminary results of a recent survey of SUs in all Italian regions and to evaluate changes in SU numbers in the seven Italian regions evaluated in our previous survey.

Methods

For the realisation of the study we defined a SU as a ward with dedicated beds (at least 80%) and a dedicated team (at least 1

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physician and 1 nurse) for acute stroke patients and a general ward (GW) as a ward (neurology, internal medicine, cardiology or other) admitting stroke patients in the same ward with other patients and without a dedicated team or dedicated beds.

Units recording at least 50 acute stroke discharges (DRG 14) per year were identified from the national registers of hospital discharges from January to December 2001. A structured questionnaire, already used in the previous study [3], was submitted by phone to the doctors in charge of the identified units by ten trained researchers. All the data collected were used to identify and characterise the stroke services of all Italian Regions. For the propriety of the information collected, all the data were supervised in collaboration with a doctor identified as regional referent.

Results

Seven hundred and forty-five (95%) hospital services were analysed of the 785 services initially identified at the beginning of the study from the national register of discharge.

Forty interviews were not performed (7 for refusals, 33 for administrative reasons such as unit closures or other reasons). Out of the 745 stroke services evaluated, 68 were SUs and 677 were GWs. In Italy only 11% of stroke patients can be hospitalised in an SU. Fifty (75%) SUs and 147 (22%) GWs were neurological. The mean number of beds was 7 for SUs (range 2–20) and 36 for GWs (range 0–106); 33 SUs (49%) and 20 GWs (3%) had all beds monitored. The mean length of stay was 12.4 (range 10.7–14) for SUs and 12.5 (range 12–13) days for GWs.

We observed that the number of SUs increased from 31 (8%) to 41 (11%). In comparing the units identified in 2000–2001 with the units detected in our new survey, we found that 10 stroke services previously ascribed as SUs no longer fall under the definition of SU used by this study, while 20 new SUs were implemented in the seven regions previously evaluated. We also observed an increase from 10% to 24% of stroke patients hospitalised in a SU (Fig. 1).

Discussion

We observed that, notwithstanding the established benefit of treatment of stroke patients in specialist units, SUs are still uncommon in most Italian regions and the hospitalisa-

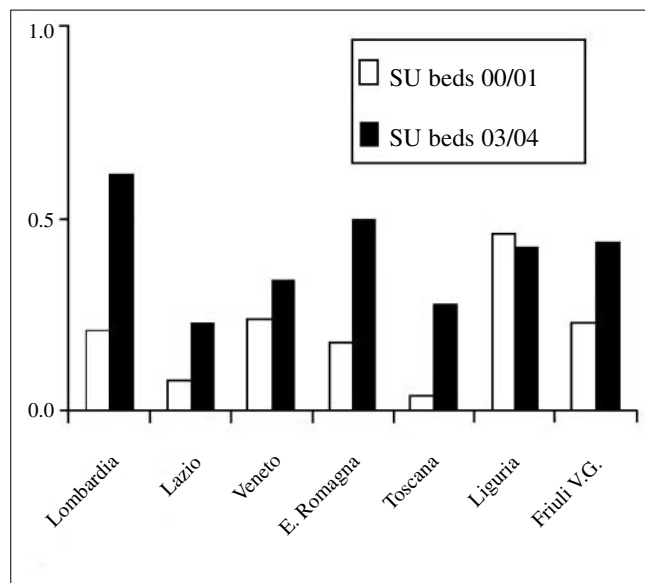


Fig. 1 Stroke Unit increase in seven Italian Regions from 2001 to 2004

tion of stroke patients is still mostly in GWs. The number and the capacity in terms of SU beds are still insufficient to treat all Italian stroke patients and there is still a great heterogeneity between the different Regions. Moreover, in our study we found that between 2000–2001 and 2003–2004 the number of SUs increased from 8% to 11%, demonstrating an implementation of specialist stroke services in Italy, but there is a number of stroke unit previously identified that no longer corresponds to the definition of a SU.

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