

Kay D W K, Beamish P & Roth M. Old age mental disorders in Newcastle upon Tyne. Part I. A study of prevalence. *Brit. J. Psychiat.* 110:146-58, 1964. [Dept. Psychol. Med., Univ. Newcastle upon Tyne, England]

We studied prevalence rates of dementia and of functional mental disorders in a random sample of elderly people living at home in a defined area and among institutional patients from the same urban area, using the diagnostic criteria developed by M. Roth<sup>1</sup> and a short cognitive test. The findings helped to differentiate dementias from depressive illness and to redirect attention to the neuropathology of Alzheimer's disease. [The SC<sup>®</sup> and the SSC<sup>®</sup> indicate that this paper has been cited in more than 400 publications.]

## Mental Disorders in an Elderly Urban Population

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In 1960 we began to study mental disorders in the general aged population in Newcastle upon Tyne. Interest in this subject was quickening owing to demographic changes and the spiralling cost of medical and social care. The first finding of interest was that the groups of disorders found in inpatients could also be recognised in community residents, among whom, however, psychoses were rare and neuroses were the predominant functional disorders. Prevalence rates in the community were high; institutional cases were the tip of an iceberg and the burden of care fell on relatives, pointing to the need for community services. One of our proposals was for a periodic review of retired people. The prognostic significance of mild or doubtful evidence of cognitive impairment was unclear and remained a question for future research. Follow-up showed that the diagnosis of dementia was associated with a high institutionalisation and mortality rate. Risk factor studies were foreshadowed in a companion paper.<sup>2</sup>

The paper raised a number of issues—some still unresolved—that have attracted much further study. These include the early features of dementia, its delineation from normal ageing, and the clinical criteria for differential diagnosis

between types. Surveys have been carried out in different parts of the world and the prevalence of dementia and the proportion of cases of Alzheimer and vascular type have been studied in search of regional differences. Comparability between studies has been increased by employing internationally recognised criteria, the development of standardised interviews and, in the EURODEM studies, by the use of the same instruments, while the training of lay interviewers has allowed much greater sample size.<sup>3</sup>

Case control studies have amply confirmed the importance of age—the prevalence rate of dementia roughly doubling every five years after age 65—and have shown that a family history of dementia is a risk factor for Alzheimer's disease. A slight preponderance of females may be due to their longer survival.

The prevalence studies of 1964 utilised the diagnostic criteria for mental disorders of the aged which had been published a decade previously. We published prevalence rates for Alzheimer's disease and other forms of dementia, depressive illness and related disorders, and functional disorders which were broadly replicated in later epidemiological studies. As the Newcastle observations had been conducted in a representative community sample, the evidence they adduced confirmed the relatively clear line of demarcation between functional psychiatric disorders and depressive states in particular, on the one hand, and Alzheimer's disease and dementia due to multiple infarcts on the other. Follow-up studies of the community sample show these "functional" and "organic" groups to differ sharply in their course and mortality rates. This helped to rekindle interest in neuropathological changes which had been described by Alzheimer in 1908 as pathognomonic of the disease which came to be named after him. For some decades his findings had been judged as nonspecific and unimportant. The use of the new classification and the development of quantified methods of neuropathological investigation by the Newcastle group demonstrated that clinical diagnosis and measures of dementia were highly correlated with measures of the Alzheimer's changes in the brain.<sup>4</sup> The first international meeting on Alzheimer's disease was convened in the following year.<sup>5</sup>

1. Roth M. The natural history of mental disorders in old age. *J. Ment. Sci.* 101:281-301. 1955. (Cited 370 times.)

2. Kay D W K, Beamish P & Roth M. Old age mental disorders in Newcastle upon Tyne. Part II. A study of possible social and medical causes. *Bra. J. Psychiat.* 110:668-82. 1964. (Cited 100 times.)

3. Kay D W K. The epidemiology of dementia: a review of recent work. *Rev Clin. Gerontology* 1:55-66. 1991

4. Blessed G, Tomlinson B E & Roth M. The association between quantitative measures of dementia and of senile change in the cerebral grey matter of elderly subjects. *Brit. J. Psychiat.* 114:797-811. 1968. (Cited 1,035 times.) [See also: Roth M. Alzheimer's and cortex changes. Citation Classic. *Current Contents*®/Clinical Medicine 20(181):10. 4 May 1992. and *Current Contents/Life Sciences*. 16041:8. 5 April 1993.]

5. Wostenholme G E W & O'Connor M. eds. *Alzheimer's disease and related conditions*. 11-13 November 1969. London. Ciba Foundation Symposium Volume 119. Edinburgh, Scotland: Churchill Livingstone. 1970

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