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Death rates of characters in soap operas on British television: is a government health warning required?

Tim Crayford, Richard Hooper, Sarah Evans

Abstract

Objective: To measure mortality among characters in British soap operas on television.

Design: Cohort analysis of deaths in *EastEnders* and *Coronation Street*, supplemented by an analysis of deaths in *Brookside* and *Emmerdale*.

Main outcome measures: Standardised mortality ratios and the proportional mortality ratio for deaths attributable to external causes (E code of ICD-9 (international classification of diseases, ninth revision).

Results: Staying alive in a television soap opera is not easy. Standardised mortality ratios for characters were among the highest for any occupation yet described (771 (95% confidence interval 415 to1127) for characters in *EastEnders*), and this was not just because all causes of death were overrepresented. Deaths in soap operas were almost three times more likely to be from violent causes than would be expected from a character's age and sex. A character in *EastEnders* was twice as likely as a similar character in *Coronation Street* to die during an episode.

Conclusions: The most dangerous job in the United Kingdom is not, as expected, bomb disposal expert, steeplejack, or Formula One racing driver but having a role in one of the United Kingdom's most well known soap operas. This is the first quantitative estimate of the size of the pinch of salt which should be taken when watching soap operas.

Introduction

Death is a fact of life in soap opera. It is only natural that producers should exaggerate the danger of real life to make series interesting, but by how much do they do this? What sorts of occupations would be as dangerous as being a character in a soap opera? Could Brookside Close be the most dangerous street in Britain? We set out to answer these questions in a hard hitting analysis of mortality in British television soap operas.

British soap opera has been a mirror to many contemporary social themes over the past 15 years, dealing with topics ranging from HIV and breast cancer to theft, mugging, and murder. This fact and the huge audiences that each programme draws each week has helped make soap opera one of the many ways by which people now normalise their own lives. In this respect, soap operas presumably contribute to people's knowledge of death as they have already done for subjects such as mental illness.[1]

Could it be, however, that these mirrors of our daily lives do not quite reflect reality when dealing with death? Or are deaths in soap operas just convenient ways to raise audience figures while distorting the perception and possibly fear of violence in society?

Methods

We studied mortality in four British soap operas on television—*Coronation Street*, *EastEnders*, *Brookside*, and *Emmerdale*—from 1985, when the newest of the four, *EastEnders*, was first broadcast, to the middle of 1997. A literature review using Medline found little other literature specifically on mortality in soap opera.[2] We next sought data from the producers on the dates of deaths or losses to follow up of all named characters, together with their ages and the dates of their first

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EastEnders: Arthur Fowler is mourned by his wife and sons

BBC TV

appearances, but we were successful only in the case of *Coronation Street*. Information obtained from a variety of internet sites was of sufficient quality to enable a suitable cohort dataset to be compiled for *EastEnders*. For *Brookside* and *Emmerdale* we were able to produce only a list of deaths. Causes of death were divided into external (E code) and other causes, using codes of ICD-9 (international classification of diseases, ninth revision). External causes included car accidents, murders, drug overdoses, suicides, and an aeroplane crash. For comparative data we used the Office for National Statistic's CD ROM of 20th century mortality, which lists age and cause specific death rates for the United Kingdom from 1900 to 1995.[3] We assumed that these rates were the same in 1996 and 1997 as in 1995.

Analysis of data

Survival in *Coronation Street* and *EastEnders* was analysed using Kaplan-Meier survival curves and Cox regression, with age as a time dependent covariate. We calculated the proportional mortality fraction for deaths from external causes for all four soap operas. This is defined as the proportion of all deaths that are attributable to a particular cause. It was compared with the proportion of deaths from external causes which would be expected in the population of the United Kingdom at precisely the ages and dates observed, which gives the proportional mortality ratio.[4] The likelihood of a given death having an external cause was compared across soap operas using logistic regression to adjust for age at death and for sex.

Results

Survival analysis

There was some indication of a difference in survival for characters in *EastEnders* and *Coronation Street* (P<0.10). Over a short interval of time, such as the duration of an episode, a character in *EastEnders* was nearly twice as likely to die as was a similar character in *Coronation Street* (hazard ratio 1.9 (0.9 to 3.9)). The figure shows the survival curves for the two soap operas, with subjects divided into three groups according to the age at which they were introduced. Table 1

shows the five year survival rates obtained from these curves. People suffering from many forms of cancer and other serious diseases have better five year survival rates than these characters seem to have.

There was no difference in survival at five years between the soap operas in characters under 29 years old. The figure also shows that people moving to Coronation Street between the ages of 30 and 44 went on to lead charmed lives, while their peers living in Albert Square dropped like flies. The survival analysis assumes that people who are written out of the serials without having to die—because their characters have become dull or dreary to the audience—are not at an increased risk of death relative to people who stay. In fact, many disappearances from the square or the street
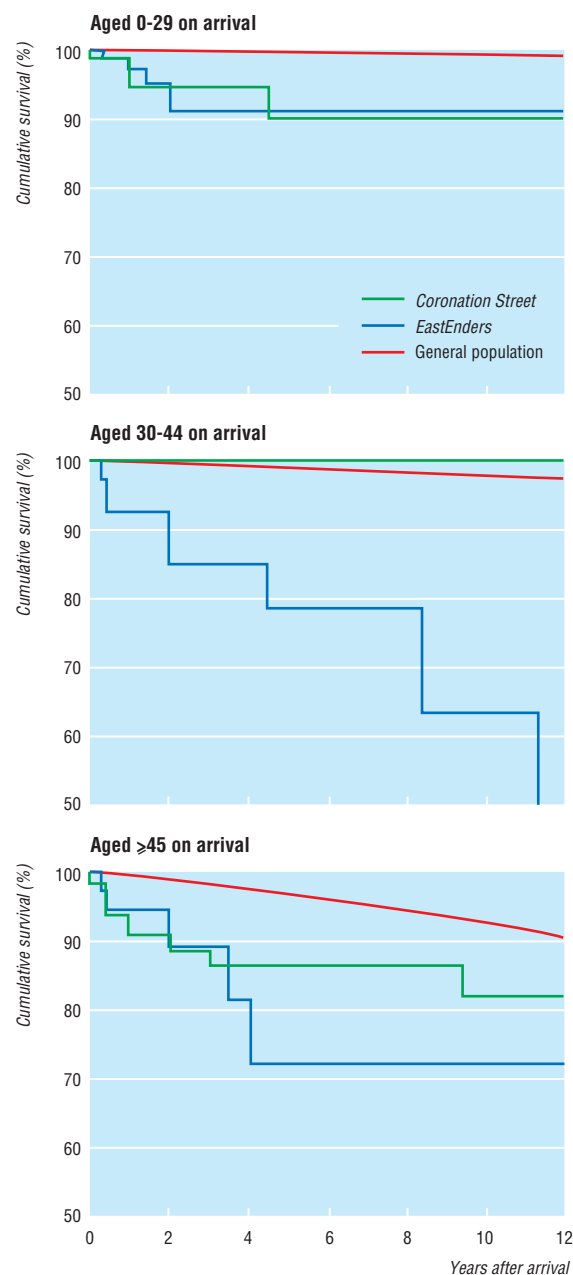
Kaplan-Meier survival curves for characters in *Coronation Street* and *EastEnders* in three age groups. Lines for general population show survival of cohort from population of United Kingdom who were followed up from 1985, when they were aged 20, 35, and 50 respectively[3]

Table 1 Five year survival rates in percentages (with SEs) of characters in two British soap operas according to age at first introduction and in comparison with general population

Age (years)	Coronation Street	EastEnders	General population*
0-29	90 (5.4)	91 (4.0)	99.7
30-44	100	79 (8.6)	99.5
≥45	86 (4.6)	73 (12.1)	97.3

*Survival in 1990 of people aged 20, 35, and 50 in 1985.[3]

Table 2 Standardised mortality ratios (SMRs) for various high risk groups in comparison with general population

	SMR
EastEnders characters	771
Formula One drivers	581
Coronation Street characters	353
Oil rig divers	235
Bomb disposal experts	196
Steeplejacks	148
General population	100

may have been precipitated by an increased risk (witness the recent departure of the Jackson family from *EastEnders* because of threats to their lives), and this would tend to mean that our estimates of survival were conservative.

Standardised mortality ratios

The expected total numbers of deaths on *Coronation Street* and *EastEnders* were calculated from population data from England and Wales using the number of person years of follow up at each age and in each calendar year. The standardised mortality ratio for

Brookside: Gladys meets her controversial end with the help of her family

Coronation Street was 353 (168 to 538), and for *EastEnders* was 771 (415 to 1127). These figures are higher even than the highest stable estimates of occupational mortality from the Office for National Statistics for 1980.[5] The most dangerous occupations in the United Kingdom at that time had standardised mortality ratios of only 308 (foremen in the printing in industry) or 413 (foremen in metal furnace industries). Actors had a standardised mortality ratio of only 99.

For more detailed data, we obtained figures on excess mortality from the insurance industry (Munich Reinsurance Company's occupational rating guide, 1996). We estimated the standardised mortality ratio that would arise if, instead of becoming characters in one of the soap operas, the people studied had chosen some other hazardous profession. Table 2 shows the results in decreasing order of foolhardiness. Being an *EastEnders* character headed the list, beating Formula One motor racing to the top spot. Life on *Coronation Street* was still more risky than being a bomb disposal expert or a steeplejack.

In total, there were 17 deaths in *EastEnders* compared with 26 in *Brookside* and 28 in *Emmerdale*. Although we did not have data on the denominator population for *Brookside* and *Emmerdale*, these data suggest that these soap operas would have had even higher standardised mortality ratios than *EastEnders* or *Coronation Street*. Brookside Close and Emmerdale could well be the most dangerous streets in the United Kingdom.

Proportional mortality ratios

Table 3 shows the proportional mortality ratio for deaths from external causes in each of the four soap operas. Logistic regression analysis found no differences between them in the number of deaths from external causes after adjustment for age at death and for sex. Because of the comparatively young ages at which subjects tended to die, the expected proportions of deaths with external causes were high. Nevertheless, in each soap opera there were at least 2.5 times the expected numbers of deaths from external causes, and the proportional mortality ratio for all soap operas combined was 2.7 (2.3 to 3.1) (table 3). Note that in the United Kingdom deaths coded E account for only 3.2% of all deaths because most deaths occur among elderly people and external causes of death are rare in this group of people.[3] But overall in the soap operas they accounted for 64% of all deaths, partly because of the younger age of the characters and partly because the sets are more violent places to live.

Table 3 Total numbers of deaths and numbers of deaths from external causes in four British soap operas

Soap opera	Total No of deaths	No of deaths from external causes	PMF (%)	Expected PMF in age matched population(%)	PMR (95% CI)
Coronation Street	14	6	43	17	2.5 (1.4 to 4.6)
EastEnders	17	11	65	22	3.0 (2.1 to 4.1)
Brookside	26	20	77	28	2.7 (2.2 to 3.3)
Emmerdale	28	17	61	24	2.5 (1.9 to 3.4)
All	85	54	64	24	2.7 (2.3 to 3.1)

PMF=proportional mortality fraction.
PMR=proportional mortality ratio.

Key messages
● Characters in soap operas lead very dangerous lives
● Their lives are more dangerous even than those of Formula One racing drivers or bomb disposal experts
● People suffering from many forms of cancer and other serious diseases have better five year survival rates than do these characters
● Could the exaggerated portrayal of these violent and dangerous lives be contributing to our distorted national perceptions about violent crime and death?

Discussion

This paper has proved what has been long suspected to be the case: Brookside Close, Coronation Street, Albert Square, and Emmerdale are highly dangerous places to live. Characters tend to die young and from a variety of obscure and often violent causes, ranging from the mystery virus in *Brookside*, which killed three, to a plane crash in *Emmerdale*, which killed four.

Of course soap opera has to be melodramatic to be interesting, but should not the portrayal of death be a little more reflective of real life? It seems sad that for soap operas to hold our interest they have to be about as dangerous as Formula One racing.

We hope this paper will stimulate further investigation and debate into the two soap operas for which we were unable to produce a comprehensive cast list. In the meantime, however, characters in these serials would be advised to wear good protective clothing (designed to withstand sharp implements, sudden impacts, and fire) and to receive regular counselling for the psychological impact of living in an environment akin to a war zone. We apologise in advance to the estate agents covering these areas, because for the rest of us the advice is clear: don't buy your next house in Albert Square, Brookside Close, Emmerdale, or Coronation Street.

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Reliability of distance estimation by doctors and patients: cross sectional study

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Abstract

Objective: To assess the reliability and accuracy of distance estimated by doctors and patients.

Design: Comparison between estimated and measured distances of six familiar sites around Guy's Hospital, London.

Subjects: 100 hospital consultants and 100 patients.

Main outcome measures: Median (range) of estimated distances, and mean (SD) of the difference between estimated and measured distances.

Results: Both doctors and patients gave a wide range of estimates of distance. The estimates differed by up to 14.6-fold from the measured distances, and the difference between minimum and maximum estimates was up to 62.5-fold.

Conclusion: Doctors and patients were inaccurate at estimating distances, which implies that estimates of distances walked are not reliable indicators of a person's health.

The assessment of a patient's walking ability is a simple and practical method of evaluating the state of respiratory, cardiovascular, peripheral vascular, and neurological disease.[1][2] Such assessment correlates well with more sophisticated assessments of cardiorespiratory function or muscle strength[3] and is important in assigning scores in many clinical disability rating scales—for example, Kurtzke's expanded disability status scale for multiple sclerosis.[4]

The two most common methods for patient assessment are the maximum distance a patient can walk or the distance they can walk until the onset of symptoms. These distances are infrequently measured in clinical practice. Doctors have traditionally relied on their own or patients' estimates of the distance walked around familiar places. One study assessing the accuracy of trained and untrained artillery observers in estimating target distances ranging from 600 m to 1550 m showed wide variability.[5] To our knowledge, there are no published studies assessing the accuracy of distance estimates made by doctors and patients.

Subjects and methods

We sent a questionnaire to all 198 consultants in our hospital asking them to estimate (in yards or metres) the dimensions of a hospital ward and the distances between five familiar sites at the hospital. A category for don't know was provided to prevent guessing. One hundred and five (53%) questionnaires were returned, of which 100 were completed. The same questionnaire was given to 100 consecutive adult patients from a general medical and neurological ward and a neurology outpatient clinic. None of the consultants or patients had an overt psychiatric disorder or cognitive dysfunction. All study sites were later measured with an architect's tape measure in metres.