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Death in *The New York Times*: the price of fame is a faster flame

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Summary

Background: Occupational factors have long been linked to patterns of mortality.

Aim: Based on the premiss that an obituary in *The New York Times* (NYT) tends to imply success in one's vocation, we used NYT obituary data to elucidate the relationships between career success, terminal disease frequency and longevity.

Design: One thousand consecutive obituaries published in NYT over the period 2009–11 were analysed in terms of gender, occupation and terminal disease, as attributed.

Methods: The frequency of disease for each occupational category was determined, and the mean age of death was calculated for each disease and occupational subgroup.

Results: Male obituaries outnumbered female (813 vs. 186), and the mean age of death was higher for males than females (80.4 ± 0.4 vs. 78.8 ± 1.1 years).

Younger ages of death were evident in sports players (77.4 years), performers (77.1) and creative workers (78.5), whereas older deaths were seen in military (84.7), business (83.3) and political (82.1) workers. Younger deaths were more often associated with accidents (66.2 years), infection (68.6) and organ-specified cancers (73.0). 'Old age' was more often the cited cause of death for philanthropists, academics and doctors, and less often for sportsmen, performers and creatives. Cancer deaths occurred most often in performers and creatives, with lung cancer commonest among performers and least common in professionals.

Conclusion: Fame and achievement in performance-related careers may be earned at the cost of a shorter life expectancy. In such careers, smoking and other risk behaviours may be either causes or effects of success and/or early death.

Introduction

Ever since John Snow reported the clustering of cholera-related deaths near the Broad Street pump in London,¹ the science of epidemiology has used changing patterns of mortality as a gold standard for inferring causal relationships in disease pathogenesis. One of the most accessible tools for analysing

death in the modern age is the published obituary, with information therein having been exploited over the years for research purposes as diverse as analyses of philanthropy,² sexism³ and enthusiasm for sports.⁴

Esteemed as 'that special form of life after death', obituaries published in *The New York Times* (NYT) are reputedly devoted to '...the famous, the

influential, the offbeat⁵ or to 'high-profile people whose deaths will be major news'.⁶ As in many US newspapers, NYT obituaries aim to include the medical cause of death—a journalistic tradition that some journalists have described as 'irksome'.⁶ Yet notwithstanding occasional inaccuracies requiring retraction (e.g. as acknowledged by NYT to have flawed their obituaries of Gore Vidal and Walter Cronkite⁷), this otherwise reliable public archive of fatal diseases provides a unique informatic resource for analysing the deaths of high-profile achievers across a wide variety of careers. Here, we have analysed these NYT obituary data to test the hypothesis that distinct patterns of disease-associated mortality characterize specific careers in famous practitioners, with the aim of generating hypotheses as to the causes and/or effects of high career achievement and fame.

Methods

Gender, age and occupational data were obtained from 1000 consecutive obituaries published between 2009 and 2011, obtained in turn from online archives of NYT⁸ (<http://www.nytimes.com/pages/obituaries/index.html>). One record was deleted from the analysis due to inadvertent duplication, leaving 999 analysable data sets. Records were stored in a master database (Supporting Information). Each record was assigned an 'occupation' category and a 'cause of death' category, with the initial specific entry in these categories subsequently allocated to a larger generic grouping to expedite statistical analysis. For example, actors, singers, musicians and dancers were all co-classified as 'performers', non-performing creative workers (e.g. writers, composers, artists and photographers) as 'creatives', whereas historians, linguists, philosophers and economists were co-classified as 'academics'. These occupational subgroups were further consolidated to create four key categories: (i) performance/sports, (ii) creative/writing, (iii) business/military/political and (iv) professional/academic/religious, with remaining subgroups (e.g. philanthropy) grouped as (v) 'other'. Similarly, with respect to diseases, heart attack, stroke or heart failure were classified as 'cardiovascular diseases', whereas Alzheimer's, parkinsonism and motor neurone disease (amyotrophic lateral sclerosis) were co-classified as 'neurodegenerative conditions'.

Causes of death in individuals living longer than 85 years, if attributed to phrases deemed imprecise in that context (including 'cardiac arrest', 'heart failure' or 'pneumonia') were redefined for the purposes of this study as 'old age', as were unattributed

deaths in this age group. In contrast, unattributed deaths at ages younger than 85, including wordings such as 'after a short illness', were recorded as 'non-specified'. For analytic purposes, death due to 'lung cancer' was interpreted as a marker of probable long-term cigarette smoking.⁹

Generic 'cancer' diagnoses were subclassified, where possible, into organ-specific cancer categories. For comparison as historical controls, national mortality statistics were obtained from the Centers for Disease Control and Prevention website (<http://www.cdc.gov/nchs/fastats/deaths.htm>) as were the relevant cancer-specific mortality data (<http://www.cdc.gov/cancer/npcr/>). Occupational categories were modified from the International Standard Classification of Occupations using the International Labor Organization link (<http://www.ilo.org/public/english/bureau/stat/isco/index.htm>). Statistical analyses were performed using online software.¹⁰

Results

The gender distribution of NYT obituaries over the 2009–11 period was skewed towards males (813) over females (186). The average age at death for males was 80.35 ± 0.43 , whereas that for females was 78.8 ± 1.08 (Table 1); consistent with this, more women than men died before age 70 (24 vs. 17%; $P < 0.02$). The pattern of deaths attributable to major disease categories—old age (32 vs. 32%), cancer (25 vs. 28%), cardiovascular (17 vs. 16%), not specified (13 vs. 12%), respiratory (3 vs. 4%), neurodegenerative (2 vs. 3%)—was comparable between male and female, respectively. However, significant distributional differences were apparent between males and females in terms of two broad occupational categories: performance/sports (18.4% of males vs. 38.0% females; $P < 10^{-5}$) and professional/academic/religious (26.7% males vs. 12.3% females; $P < 0.001$). Old age was more often cited as the cause of death for philanthropists, academics and doctors, and less often for sportsmen, performers and creatives (see Supporting Information).

With respect to occupations, the youngest ages of death were seen in performers/sports (77.2 ± 1.7) and creatives (78.47 ± 0.75), and the oldest in professionals/academics (81.7 ± 1.4) and business/politics/military (83 ± 1.2 ; Table 2). The main disease subtypes associated with earlier (premature) deaths were accident and misadventure (66.2 ± 2.7), infection other than pneumonia (68.6 ± 3.6) and organ-specified cancer (73 ± 0.9 ; Table 3).

Overall, deaths from cancer trended towards being more frequent in creatives (29%) and

Table 1 Overall statistical breakdown of the sample analysed

Cohort	N	Mean age	SEM
Males	813	80.35	0.43
Females	186	78.80	1.08
Total	999	79.98	0.41

SEM, standard error of the mean.

Table 2 Mean age at death as a function of occupational grouping

Occupation	N	Mean age	SEM
Performance/sports	221	77.2	1.7
Creatives/writers	290	78.5	0.75
Professional/academic/ religious	232	81.66	1.4
Politics/business/ military	183	82.95	1.2
Other	73	83.53	1.90

Table 3 Mean age at death as a function of terminal disease attribution

Cause of death	N	Mean age	SEM
Accident or misadventure	49	66.18	2.67
Infection ^a	8	68.63	3.63
Cancer, organ-specified	176	72.99	0.87
Cardiovascular	168	75.51	0.83
Neurodegenerative	23	76.09	1.39
Non-specified cause	126	75.63	0.87
Cancer, non-organ-specified	75	77.11	1.17
Pneumonia	7	77.43	2.11
Other general medical	46	77.50	1.56
'Old age'	321	91.86	0.26

^aOther than 'pneumonia'; includes HIV/AIDS, tuberculosis, malaria, septicemia, etc.

performers (27%), and less in professionals/academics (24%), military-political (20.4%) and sports (18%). More specifically, lung cancer deaths—representing 15.5% of all cancer deaths (correcting to 22.1% when non-specified cancers are excluded, which is lower than the US national figure of 28%¹¹)—were commonest in performers, and significantly less common in professionals/academics (7.4 vs. 1.4%, $\chi^2=7.9$, $P=0.005$; Table 4 and Supporting Information).

Table 4 Frequency of death by lung cancer as a correlate of occupational group

Occupation	N (total)	N (Ca lung)	% (Ca lung)
Performance/sports	221	16	7.2
Business/military/ political	183	9	4.9
Creatives/writers	290	9	3.1
Professionals/ academics	209	3	1.4

Discussion

There are few measures in public health less ambiguous than death—compared to softer endpoints such as disease incidence or prevalence, death is quantifiable with impressive precision. The average life expectancy of a US citizen born today is 75.6 years for males and 80.8 years for females. Unexpectedly, the average age of death for NYT males in our study was older (80.35), and for females younger (78.8), than these averages. This discrepancy is best explained by the finding that, relative to males, females were significantly over-represented in the NYT performance/sports category, which proved in turn to be associated with shorter lifespan, while under-represented in longer-lived fields of NYT interest such as professionals/academics. In contrast, no sex difference in the pattern of fatal disease categories was evident.

Difficulties in accurately attributing causes of deaths are illustrated by our study, and are partly quantifiable by the 'not specified' and 'old age' categorizations. The study design reflects our impression that the attributed cause of death in obituaries has greater precision at younger ages, while losing meaning as competing causes of expected death (arbitrarily defined here as older than 85 years) accumulate. Indeed, if our analysis is restricted to specified causes of death as defined, up to 43% of NYT deaths were attributable to cancer and 31% to cardiovascular disease, which compares with 29 and 30% for the US national averages, respectively, when the same correction is made across all ages.¹² Our data also indicate that lung cancer deaths in NYT performers/sports categories approximated the national average, whereas the rest of the cohort exhibited lower mortality to this diagnosis.

The use of 'recreational' drugs, such as alcohol¹³ and cannabis,¹⁴ has long been associated with creativity, while addictive psychoactive drugs, such as anxiolytics and opiates, have been implicated in

performance-enhancing behaviours and coping strategies.¹⁵ Risk behaviours such as smoking,¹⁶ binge drinking and other drug abuse may likewise occur more often in adolescents who academically underperform yet remain heavily involved in sports.^{17–19} Other observational studies have suggested shorter lifespans for high achievers in various fields²⁰ and for other non-conformists or outsiders.^{21,22} Yet, this study also indicates that certain occupational NYT subgroups such as philanthropy, business and medicine are associated with older ages of death, implying that the risks of achievement in some career types may be discounted or even reversed by wealth, recognition or related advantages.

There are important limitations to our analysis. First, our study sheds no light on whether other complex variables (e.g. relating to family background,²³ deprivation or abuse, drug exposure or childhood personality²⁴) predispose to the risk taking and ambition,²⁵ which may plausibly increase the probability of NYT fame. Second, we acknowledge that the style of obituary itself changes over time,²⁶ driven in part by changing attitudes towards diseases such as HIV infection.²⁷ Third, being a retrospective uncontrolled study, we cannot exclude that the play of chance has inadvertently confused data-derived subsets with statistical significance. Our conclusions are therefore offered as hypothesis-generating only, and should be tested in the prospective context of larger correlative or controlled studies.

In summary, the possibility that performance-based success and fame usually translates into health advantages²⁸ is not supported by our NYT obituary analysis, in common with analyses of non-performing hyperachievers.²⁹ Indeed, our data raise the intriguing speculation that young people contemplating certain careers (e.g. performing arts and professional sports) may be faced, consciously or otherwise, with a faustian choice: namely, 1. to maximize their career potential and competitiveness even though the required psychological and physical costs may be expected to shorten their longevity, or 2. to fall short of their career potential so as to balance their lives and permit a normal lifespan. Finally, although the extent to which life-shortening risk behaviours represent a cause or an effect of such career success is beyond the scope of this analysis, we believe that this pivotal question invites serious attention by prospective studies.

Supplementary material

Supplementary material is available at *QJMED* online.

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