Clinician beliefs underlying autopsy requests

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Summary

The aim of the study was to use psychological theory to identify and evaluate factors influencing clinical autopsy requests. A series of pilot interviews were conducted with 20 clinicians to identify beliefs about the benefits and drawbacks, social groups and circumstances influential in the decision to make an autopsy request. The most common beliefs, together with measures of intention to request autopsies, were incorporated into a questionnaire which was distributed among all appropriate clinicians in four hospitals. Statistical analyses identified which beliefs had the most influence on clinicians' intentions to request autopsies.

A total of 145 clinicians returned the questionnaire, a response rate of 42%. Clinicians were significantly more likely to request autopsies the more they thought that the outcome of requesting would be of educational value, would confirm clinical diagnoses, would not distress relatives, would not be time-consuming and that the request itself would receive support from their consultant. An autopsy request was unlikely in circumstances where clinicians felt uncomfortable when requesting relatives' permission and when the patients were elderly. The fear of causing distress to relatives and the degree of support from the clinician's consultant were found to be the strongest predictors of intention to request autopsies. These are two areas in which intervention could help to increase autopsy request rates.

Keywords: autopsy requests, clinician attitudes

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Declining hospital autopsy rates in this and many other countries have generated considerable concern among sections of the medical profession.¹ Since clinicians are primarily responsible for initiating hospital autopsy requests, a relationship between their attitudes and this decrease in autopsy rates is likely.^{2–5} Although several empirical studies have identified various factors (eg, confidence in clinical diagnosis or attitudes of relatives) that might influence the autopsy request process,^{2,4–9} there has been little attempt to test systematically how or why these factors might affect clinician decision making. Such an evaluation is vital for indicating where resources should most effectively be allocated to increase autopsy request rates.

Theoretical perspectives drawn from the

field of psychology can provide an appropriate framework in which to understand how such factors interrelate to determine autopsy requesting behaviour. One study adopting such an approach investigated a small set of factors (age of patient, relatives' willingness to give permission, autopsy conditions, diagnostic confidence and clinician's interest in the autopsy) thought to influence autopsy requests through hypothetical case studies distributed to clinicians.¹⁰ It was found that the clinicians' general interest in the autopsy was the dominant factor influencing intention to request, although questions remained as to what aspects of autopsies generated this interest.

The present research expands on this previous study but uses a new methodology to identify and evaluate factors thought to influence autopsy requests, using the psychological framework of Ajzen's Theory of Planned Behaviour (TPB).¹¹ Within this approach, the performance of a particular *behaviour*, in this case the requesting of autopsies, is held to be determined by the *intention* to perform that behaviour. There are proposed to be three major influences on an individual's decision or intention to act in a particular way. In the present context, these would relate to the clinicians' evaluations of the *benefits and drawbacks* of requesting autopsies (eg, in terms of educational value), the *social pressure from influential individuals* around them (eg, consultant clinicians and pathologists) to request autopsies, and the *situational constraints* (eg, time available to ask permission from relatives) likely to prevent autopsy request (figure). This paradigm has been used successfully in other contexts to predict behaviour and to identify areas where interventions may be appropriate.¹²

The current study sought to further our understanding of autopsy request behaviour in two ways. First, preliminary interviews with clinicians and a comprehensive examination of the literature were used to identify a wide range of factors influential in autopsy request behaviour. These factors were then grouped according to the framework of the TPB. Second, the interrelations between those factors, and their relative importance in predictions of intention to request autopsy (a good indicator of actual behaviour¹³) were statistically evaluated using a large sample of clinicians.

Methods

A two-stage methodology was employed. First, information identifying common beliefs about requesting autopsies was gained through struc-

tured interviews with 20 clinicians (eight junior house officers, 10 senior house officers and two registrars). The clinicians were drawn from a wide range of specialities within the four hospitals taking part in the study. This interview information was incorporated into a self-completion questionnaire which was used in the second stage of the study.

QUESTIONNAIRE CRITERIA

The four sections within the questionnaire related to clinician beliefs about (a) the benefits and drawbacks to requesting autopsies, (b) the individuals influencing requesting, and (c) the situational constraints to requesting. The general level of clinician intention to request autopsies was also recorded. All responses were measured on seven-point Likert scales.

Benefits and drawbacks

This section consisted of seven items: four benefits and three drawbacks to requesting autopsies (figure). Clinicians answered two questions about the likelihood of occurrence (responses from 1=extremely unlikely, to 7=extremely likely) and importance (1=extremely unimportant, to 7=extremely important) of each benefit or drawback.

Influential individuals

The pilot interviews in Stage 1 identified five individuals or groups whose opinion might influence the decision to request an autopsy (figure). Clinicians responded to whether each group or individual would support autopsy requests (1=definitely advise me not to request, to 7=definitely advise me to request) and the clinicians' motivation to comply with

such advice (1=never want to do, to 7=always want to do).

Situational constraints

Six constraints thought to influence clinical autopsy requests were identified (figure) and clinicians were asked to rate how often each potential barrier was likely to occur (1=extremely unlikely, to 7=extremely likely).

Intention to request autopsies

Two items measured this dimension. The wording of the items was as follows. 'If possible I would like to request an hospital autopsy for every patient in my care', and, 'Most probably I will request an hospital autopsy for every patient in my care' (1=extremely unlikely, to 7=extremely likely). The internal consistency of the two items was high (Cronbach's alpha=0.95), and they were averaged to form a measure of overall intention. The higher this score, the greater the general intention of the clinician to request autopsies on his or her patients.

PROCEDURE

The study was conducted in four hospitals (two large general hospitals, and two medium-sized hospitals specialising in geriatric medicine and oncology). All departments and specialties with the opportunity to request autopsies were included and 342 questionnaires were sent out. Each questionnaire was accompanied by a covering letter from the researchers and a pre-paid, addressed envelope was provided for the return of the questionnaire. A single reminder was sent after two weeks.

Figure A framework of influences on clinician autopsy requesting (including the specific beliefs used in the study questionnaire)

Results

A total of 145 clinicians completed and returned the questionnaire (a response rate of 42%). All grades of clinician were represented in the sample: consultants (30%); senior registrars (13%); registrars (16%); senior house officers (23%); and house officers (18%). From the limited information available, it appeared that the composition of this sample was similar to the clinician population of the four hospitals (eg, 32% of the hospital population were consultants and 30% of questionnaires returned were from that grade).

DESCRIPTIVE DATA

Benefits and drawbacks

Clinicians considered the mostly likely benefits of autopsy request to be the educational value provided to students (mean score=5.33) and the confirmation of clinical diagnosis (mean score=5.17). Drawbacks receiving higher ratings included the time involved in the requesting procedure (mean score=5.50), and the distress caused to patients' relatives (mean score=5.10). However, clinicians rated causing distress to patients' relatives as the most important consequence (mean score of 5.72) followed closely by confirmation of clinical diagnosis (mean score=5.71).

Influential individuals

Pathologists were believed to be the most supportive of autopsy requests (mean score=4.81) followed by the clinicians' consultant (mean score=4.34) and senior colleagues (mean score=4.24). The clinicians' consultant and senior colleagues also received the highest scores for motivation to comply with their wishes, ie, the opinion of these groups carried the most weight with the clinicians (mean scores=5.26 and 5.00, respectively).

Situational constraints

The deceased being an elderly patient (ie, greater than 60 years) was the most likely factor to inhibit requesting (mean score=5.66). This was followed by the degree of certainty of the clinical diagnosis (mean score=4.58) and the perceived reluctance of patients' relatives to give permission (mean score=4.58).

Intention to request autopsies

Clinicians were fairly unlikely to request autopsies on all their patients, as indicated by the mean score of 2.7 (from a scale of 1 to 7) for this variable.

BELIEFS THAT PREDICT INTENTIONS TO REQUEST AUTOPSY

Stepwise multiple regression procedures were used to identify whether any of the aforementioned beliefs had an effect on intention to request autopsy. The utility of this statistical procedure is that the predictive strength of each belief can be assessed whilst taking into account the influence of other beliefs within

each group. Each benefit or drawback was weighted by its importance to the clinician and then entered into a regression equation to predict the level of intention to request autopsy. Similarly, the advice from each referent group was weighted by the clinician's motivation to comply with such advice before being entered. Finally, a third regression was carried out to examine which of the situational constraints would significantly predict requesting intentions. The main findings were as follows:

Benefits and drawbacks

A clinician was more likely to request autopsies the more likely and important it was thought the autopsy request would be of educational value, would confirm clinical diagnoses, would not distress relatives and would not be time consuming.

Influential individuals

The opinion of the consultant was by far the strongest social influence on clinician intention to request an autopsy.

Situational constraints

The only situations which would significantly prevent autopsy requesting were those where the clinician felt uncomfortable in requesting relatives' permission or when the deceased was elderly.

All of the above significant predictors were entered into a final multiple regression equation to determine the most influential beliefs out of all three groups. The opinion of the clinicians' consultant was the strongest predictor of intentions to request autopsies. The only other belief to attain statistical significance was the degree to which the clinician feared distressing patients' relatives.

Discussion

This study set out to identify and evaluate the beliefs most influential in clinicians' decisions to request autopsies. Exploratory interviews with clinicians were used to generate a series of personal, social and situational beliefs in relation to autopsy requests. These beliefs concurred with factors suggested elsewhere as possibly having some effect on autopsy requests.⁸ However, this research goes beyond previous investigations in that a study design was used which assessed the relative influence of those factors on intentions to request autopsies. In consequence, the study identifies the most important factors which influence requesting behaviour and therefore demonstrates the value of using psychological frameworks such as the TPB to identify key influences on behaviour.

The most influential benefits were found to be associated with confirming clinical diagnoses, and the educational value of the autopsy to others. This finding is consistent with other studies.^{6,14} These positive influences contrast, however, with two drawbacks: the request process taking too long and the possibility of

Summary/learning points

A clinician's general intention to request autopsies can be influenced by a range of factors covering:

- his/her personal valuation of the benefits and drawbacks of autopsy
- social pressure from other individuals
- practical constraints

Using psychological techniques, the most important influences on the clinician's intentions to request autopsies were found to be:

- causing possible distress to relatives
- the degree of support from the clinician's consultant

Autopsy request rates could therefore be effectively increased by focusing on:

- reducing distress to relatives (through training of clinicians in interpersonal skills or introducing specialised bereavement officers)
- encouraging consultant clinicians to publicly advocate the requesting of autopsies

upsetting relatives. These findings may help to explain the apparent paradox recognised in previous studies which suggest that clinicians view autopsies as beneficial but autopsy request rates still remain low. Our observations suggest that at a personal level, clinicians value the autopsy itself, but actual requests may be inhibited by time constraints and consideration for relatives.

The study also illustrates the influence of social pressure from others in autopsy request behaviour. Various studies have indicated that clinician colleagues, consultant clinicians, pathologists and relatives may be major influential groups.¹⁵ The inclusion of nurses as an important group by our sample of clinicians is of interest as most previous studies have tended to overlook this professional group as a potential influence. Our results suggest clinicians do not believe that the groups used in our study are particularly supportive of autopsy request. However, the support of consultant clinicians was found to have the greatest influence in the decision to make an autopsy request. This confirms recent findings from a small sample of clinicians where high autopsy rates were associated with those consultants holding positive views of autopsy which were made clear to their junior staff.¹⁴

In relation to situational constraints to requesting behaviour, our findings suggest that increasing age of patients and the discomfort associated with requesting relatives' permission are negative influences on clinician intentions to request autopsy. Although patient age has been previously found to be an important factor,⁹ clinicians' feelings whilst requesting permission from relatives has not been widely recognised. This supports the findings of a recent survey where clinicians identified inadequate training in grief situations as a major contributory factor to the decline in autopsy rates in recent decades.¹⁶

Evaluating all the above influences in relation to one another emphasised that causing

distress to relatives, and the views of clinicians' consultants were the most important factors influencing autopsy request decision, over and above the benefits to be derived from autopsies themselves. No previous studies have identified the clear importance of these influences. It is worth pointing out that the results of this study may need to be treated with a little caution, as less than half those clinicians sent a questionnaire replied, indicating potential response biases. However, the actual number of clinicians taking part in the study was large enough to suggest that the views of the study sample may have reasonably reflected the range of attitudes of the clinician population in the four hospitals.

In practical terms, the results suggest there are two major areas where interventions may help increase autopsy rates. The first relates to requesting relatives' permission for autopsies. Here two issues were identified as important: causing distress to the relatives, and clinicians' feelings of discomfort whilst seeking permission. The introduction of bereavement officers, trained in the necessary interpersonal skills, to liaise between clinicians and next-of-kin might reduce distress to relatives, while shifting the burden of responsibility from clinicians and thereby reducing workloads. In addition, this is likely to remove the emotional discomfort experienced by clinicians untrained in the process of making autopsy requests. Some hospitals have already adopted this policy with promising results.¹⁷

Several doctors in this study expressed the wish to talk to relatives themselves but few had received any training or advice in this area. This underlines wider criticisms that the standard of communication skills training in British medical schools is poor.¹⁸ A greater emphasis on interpersonal skills training is needed within medical schools, together with the provision of short postgraduate courses for those already in practice. Training in the interpersonal skills required for dealing with bereavement issues should be supplemented by advice to clinicians on how to deal with their own feelings during such activities. A more detailed investigation of this issue has been carried out elsewhere.^{19,20}

The second major factor identified as influencing intentions to request autopsy, was social pressure. Consultant clinicians were found to be key influential figures and their public advocacy for requesting autopsies should have a strong positive effect on the attitudes and requesting rates of those clinicians around them. In terms of generating this advocacy, it seems that the relationship between pathologists and other consultants is an important issue to focus on.

This study has demonstrated the value of using a theoretical framework drawn from the field of psychology to identify the key beliefs underpinning clinicians' autopsy requesting behaviour. Several of these beliefs were found to significantly predict intentions to request autopsies and future research should evaluate the impact on autopsy request rates of possible interventions suggested by the present study.

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Medical Anniversary

HARVEY CUSHING, 8 APRIL 1869

Harvey Cushing (1869–1939) was born in Cleveland, Ohio, USA, son of a professor of obstetrics. He was educated at both Yale and Harvard Universities and then joined Professor WS Halsted's department of surgery at the new Johns Hopkins Hospital, Baltimore. His colleagues were Osler, Welch and Kelly. He became professor of surgery at Harvard (1912) and neurology at Yale (1932). His Cushing's syndrome and facies are now household medical terms. His two-volume life of his close friend William Osler won the Pulitzer Prize and remains compulsive reading, as is John Fulton's biography of Cushing. He died on 7 October 1939. — *DG James*