DEBATE

Legal aspects of clinical practice in reproductive medicine

Retrospective judgement of medical decisions: is the ‘linear’ model appropriate?

Izhar Ben-Shlomo1,3, Moshe Zeidner2 and Eliezer Shalev1

1Department of Obstetrics and Gynaecology, Haemek Medical Centre, Afula, and Rappaport School of Medicine, Technion, Israel Institute of Technology, Haifa, and 2Laboratory for Cross-Cultural Research in Personality and Individual Differences, School of Education, University of Haifa, Israel

3To whom correspondence should be addressed

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Retrospective judgement of medical decisions is a major component in medical education and quality control as well as in litigation. As the latter gathers momentum worldwide, a central concern of the medical profession should be to sort out the inherent weaknesses of retrospective assessment. One obvious difficulty is the limited opportunity for accurate record keeping as clinical events evolve. Also, the best medical records may fail to reflect the clinical situation in its entirety. Furthermore, there may be differing and even contradictory recollections of events by the patients and staff involved. Finally, the emotional and cognitive state of patients and caregivers may have a bearing on the later interpretation of events.

Obstetricians experience too often the frustration of being judged retrospectively. In order to broaden the understanding about this problem, we would like to draw attention to an aspect which has not commanded much attention in the field, i.e. the fact that obstetricians are often involved in the simultaneous treatment of several cases, a reality which is ignored in retrospective judgement because these judgements tend to view each case as an isolated ‘linear’ series of consecutive events.

It is not unusual for a delivery room, which handles 300–400 deliveries a month, to have between three and five women in labour simultaneously. The usual setting leaves the delivery room with only a skeleton staff for ~16 out of 24 h. With a Caesarean section rate of 10–20%, one sometimes observes a night call during which two or three Caesareans are performed with maybe another two operative deliveries. Facing this often stressful ‘overload’ situation, the senior obstetrician on call is required to closely monitor, and be personally involved with, decisions on more than one case.

The need to skip from one track of dynamic considerations to the other, in itself poses a cognitive overload situation (Hamilton, 1975), which has been shown to compromise performance in both humans and laboratory animals (Easterbrook, 1959; Janis and Mann, 1977; Wells and Matthews, 1994). Moreover, since labour typically lasts several hours, fatigue becomes an additional factor exacerbating cognitive stress. This, in turn, may compromise judgement as to one’s own fitness to carry on (Wells and Matthews, 1994).

Current models view attention as being a limited cognitive or mental resource (Anderson, 1990). Given the fixed cognitive resource supply, attention can be allocated to, at most, a very limited number of cognitive processes at one time. If allocated to more, human performance would be expected to deteriorate (Anderson, 1990). Thus, the limited capacity for attention of a doctor attempting to juggle and cope with several tasks simultaneously may be the root cause of limitations in on-the-job functioning. Furthermore, lowered performance often results when the individual’s processing system is confronted with an ‘information load’ that exceeds the system’s limited available processing resources (Hamilton, 1975). Under conditions of stress and anxiety, such as those present in events threatening the patient’s life, the information load would be predicted to frequently overtax the system. This happens because the cognitive representation of anxiety clearly absorbs a meaningful degree of the individual’s capacity for attention, leaving a reduced proportion for the solution of the task at hand. This handicap becomes particularly burdensome, as tasks demand more attention and processing capacity. When total information-processing demands exceed one’s capacity, the cognitive control system would be expected to restrict attention voluntarily to a small number of information sources (i.e. attention narrowing). Furthermore, under stressful conditions, subjects attend to a very limited range of environmental cues and respond with personalized, self-oriented responses, which direct attention away from the task (Geen, 1976). An earlier hypothesis (Easterbrook, 1959) implies that narrowing of attention span and utilization of cues under increased stress would have a greater adverse effect on difficult tasks, which comprise more cues, as would typically be the case in a medical setting. High arousal restricts the range of cues among which attention may be divided and also disrupts the control of selective attention. Broadbent suggests that a person will often respond to the limited resources by paying less attention to external, task-related inputs, either by narrowing the area of focus for selective attention or by restricting attention to a small number of foci (Broadbent, 1971). Or, there may be some automatic mechanism for compensation. Needless to say, medical decision making should never become automatic.

Janis and Mann’s well known model of decision making posits, that under stress individuals adopt a form of coping
I.Ben-Shlomo, M.Zeidner and E.Shalev termed ‘hypervigilance’ (Janis and Mann, 1977). This mode of coping is manifested by disorganized information processing in a frantic search for a solution: a hasty and incomplete evaluation of information, failure to consider all alternatives, and a rapid shifting among possible solutions, frequently leading to faulty decisions. Hypervigilant behaviour would probably characterize the fidgety behaviour of physicians under severe time pressure on the job, in turn becoming a threat to their patients.

Above and beyond the difficulties mentioned in coping with the overload condition delineated above, and the potentially deleterious effects of cognitive and attention overload on performance, there is the emotional stress of being involved with situations that literally have life-long repercussions. Ideally, one should strive to consider each clinical case independently. However, following a technically difficult Caesarean section due to arrest of descent of the fetal head, one would be easily tempted to shorten waiting on the next case during the same shift. This temptation to shorten waiting may be even more likely in the following situation: one labour needs to be monitored by repeated measurements of scalp blood pH, when each subsequent measurement may dictate a Caesarean. At the same time there is a concomitant labour in which one is called to wait patiently to the completion of two hours in full dilatation, before resorting to Caesarean. One should also factor into this equation the events in which a life-threatening obstetric bleeding is treated, sometimes with unwanted but inevitable delay. Such an event, which overwhelmingly absorbs and commands all the attention and skills of the involved practitioners, undoubtedly leaves them somewhat less attentive to the finesses of the next case. All told, the treatment of each obstetric case does not stand alone, and is far from being the mere summation of what is written in the records. It is, therefore, in this perspective that the retrospective judgement of a case as a ‘linear’ sequence of events does not do justice to the physicians involved, who are coping with a network of simultaneous events.

Admittedly, it is doubtful if any judicial system can find a means to correctly weight the relevance of concomitant events to the case in question. Nevertheless, it is of prime interest to the medical profession to point out this aspect of our practice, as it pertains to legal circumstances. At the professional level, it may be of value to patients if standards of manpower allocation will be established, with respect not only to time spent in work but also to the specific load of cases treated at a given time frame.

In the meantime, when the above changes are a wish at best, medical education should introduce the concept of simultaneous treatment decision making. This can get substantial insight from trends of thought, developed in the field of trauma care. In this, records may then reflect conscious decisions that deleted a step or deserted a valid option for treatment, simply due to lack of resources at a given time. Moreover, if physicians will be educated to consider comprehensively multiple-patient situations, their decisions should improve under such circumstances. At the same time, an effort should be devoted to define research tools, which may help in establishing standards for real-time evaluation of workload with special reference to potential thresholds of overload.

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References