



Editorial

Reaching wise decisions, shared decision making, and information recall—A causal relationship or just an association?



1. Why information recall matters

The more communication in health care aims at ‘the patient as partner’ of health care professionals [1,2], the more information should be provided in such a way that patients recall and understand information as completely and as correctly as possible. The *informed patient* is a core element of many contemporary concepts of clinical medicine, among which patient empowerment or the pledge for shared decision making are prominent though not thoroughly understood, as the titles of two recent editorials in PEC demonstrate: Martha M Funnell: Patient empowerment – What does it really mean? [3] and A Pieterse and A Finset: Shared decision making – Much studied, much still unknown [4].

The basic assumption is that patients make wise decisions if they understand what exactly their problem is (information on diagnosis), which therapeutic options – if any – exist, and what they can contribute themselves. These widely accepted principles nowadays reach out to operative medicine [5,6], where the immediate impact of a single procedure is often more pronounced than e.g. in the long-term treatment of patients with chronic diseases. The provision of pre-operative information by anaesthetists is particularly well researched. Here the goal of patients’ informed consent has become a central element of patient care; respective guidelines are up-dated regularly [7]. An editorial with the telling title ‘The illusion of informed consent’ [8], however, points to some of the difficulties in reaching individual patients’ understanding of ‘material risks’ and benefits. The authors claim that fulfilling legal requirements often results in ‘overwhelming patients [. . .] by the array of alternative material risks presented to them’. Interestingly, the authors of this editorial hold the legal system responsible for the risk of drowning patients in information, whereas doctors themselves also have problems in defining ‘essential’ elements of information. In a paper from Basel, Selina Ackermann et al. [9] asked physicians which elements of information they would give to a hypothetical patient with non-cardiac chest-pain upon discharge from the emergency department. These expert physicians chose 36 out of 81 items (range 20–57), even though they knew from their own clinical expertise that a consultation time of 15 min as outlined in the case description was rather optimistic under typical emergency department working conditions. Even more striking was the fact that they were unable to define a less voluminous corpus of ‘essential information’, even though they estimated that it would take on average 44.5 min to convey this

amount of information to a patient. We would argue that doctors in this study and legal representatives in many countries follow a certain algorithm that might be termed ‘the completeness paradigm’: the more a patient knows the better. An alternative paradigm might be the ‘harm avoidance paradigm’ that asks health care professionals to define first a set of information units that *must* be recalled, to which other information units can be added that *might* be recalled. This would be in keeping with the motto: Define which knowledge deficit will harm the patient (until the next contact with the health care system). In our experience, applying this paradigm to many different clinical situations regularly results in the definition of a reduced set of essential elements that can be supplemented with information upon request from the patient.

2. Improving information recall through technical means

Above, I briefly outlined why information matters and that informing patients and helping them to understand information can be a difficult task if not a ‘mission impossible’. Below, several attempts are listed that investigated whether and how information recall can be improved. One approach is based upon the assumption that the use of different modes of presentation of material will increase the number of items that can be recalled and understood. Results of a recent Cochrane Library publication showed that the addition of AV material to oral and written information only slightly improved knowledge and understanding [10]. Another way of presenting information to patients is the use of decision aids. This has had positive effects on patients’ understanding and seemingly on their ability to reach wise decisions: patients reported less decisional conflict, were more aware of their personal values, and were more engaged in shared decision making [11]. Interestingly, at the same time informed patients opted for less major elective surgical procedures and preferred a more conservative approach. They were also less inclined to undergo prostate-specific antigen testing. Yet another approach has been reported in a paper from this issue of PEC: Wolderslund et al. [12] investigated whether a replay of the audio file of the consultation would improve recall of information, which has been found to be the case in other studies. Patients recalled about 6 out of 10 elements of the information given. An increase in information load was associated with poor recollection, but it could not be affirmed whether listening to the consultation again had any effect upon recall.

Table 1

Doctor talk from Sleptsova et al. [19]; see also Beach et al. [20] for examples from oncology.

Professional: «emm hm and she was looking very special Mrs. B was looking very special she has been asking you many things or you recall asked very many questions or and she has been looking very special have you well this so-called (is showing quotation marks with her fingers) post-traumatic stress disorder do you have something like this or rather not? Or what are you suffering from? What are your complaints or..?»

3. Improving information recall through professional communication

Another approach is based upon research showing that it is easier to store information in memory when the recipient is able to discover an integrating concept in a text. This supposedly allows for the arrangement (chunking) of single pieces of information into over-arching categories thus reducing the complexity of information [13]. An often quoted impressive example shows that excellent chess players are able to replace chess pieces 90 percent accurately after viewing a photograph of a real situation from a middle game of chess for only five seconds. They are not much better than controls if they view a random sample of chess pieces. This difference is usually explained with the experienced chess players' ability to identify an innate structure in the position of pieces [14]. Medical textbooks or scientific journals present their content in a highly structured way, starting with a title, followed by a table of contents, offering chapter headings and only then providing the text that contains proper information [15]. We proposed to transfer this structure from written material to the situation where information is given orally and reported that recall could be improved to some extent [16] or that recall was at least less dependent on prior knowledge of the recipient [17].

A very carefully designed paper in this issue of PEC compares the effects of a trusting relationship and a structured presentation of information on patient recall and the development of trust [18]. The authors reported that neither intervention had a positive effect on recall. The presentation of information in a 'caring manner' increased trust in the doctor who presented information. Furthermore, they observed that the more patients developed trust in the doctor, the less information they recalled. The paper raises several ethical, methodological and philosophical issues. First, if we believe that the goal of communication is to foster a trustful relationship and at the same time the establishment of the empowered, well-informed patient, the authors present evidence for a trade-off between building trust and building knowledge. The authors offer the following explanation: 'trust may serve as a means to rely on or even blindly trust the provider, and not question the suggested treatment plan/recommendations, thereby potentially decreasing recall.' If we turn this argument around: does it mean that the prudent patient should maintain a certain level of scepticism towards a medical professional when receiving information? Methodological issues relate to the apparent failure to successfully manipulate the 'structure' condition: participants rated both the structured and the 'non-structured' version of the video vignette as highly structured. From free-text comments, the authors conclude that patients rated communication as 'structured' when it was perceived as being 'clear'.

4. On the difference between structure and clarity

Apparently, patients did not identify a certain way of communicating in which a change in the topic to be raised was announced etc. Two methodological issues are interesting here: Could it be that instruction videos are intrinsically clear, because

the actors portraying doctors speak Dutch and not gobbledygook when they speak into a microphone? This hypothesis is derived from the difficulties we have when we transcribe real life videos from routine consultations. We often struggle with an incredible lack of grammatical structure in the statements of professionals (and patients and relatives). This was most prominent when we analysed interpreters' attempts to translate what was being said in language A into language B. They could not simply translate a dialogue, they first had to convert 'German gibberish' into 'proper German' before translating into Turkish or Albanian [19] (Table 1).

It turned out to be extremely difficult to build a control condition showing a trustworthy video vignette of a doctor using chaotic colloquial 'speak' [16,17]. We suggest that being on stage albeit in the presence of a video camera and audio equipment, leads participants to speak e.g. German with much better grammar and well-chosen vocabulary than they did when they were not in a role. The other methodological aspect relates to the question whether structuring utterances were set off from the textual environment. The question here is whether patients realise that an utterance is addressing structural issues and not just providing another piece of (factual) information. We assume that the process of highlighting information on structure might be successful because it allows the recipient's mind to prepare for the next step. If we view the recall process of different types of information as a process that involves the activation of different memory stores in the human brain, we could learn from research on the costs of task switching. This research showed that individuals need at least 600 msec to prepare for another task [21,22]. If we use a warning shot in breaking bad news ('I'm afraid I have no good news to tell you') we can often observe that patients change their posture, straightening up or taking a deep breath, thus 'physically' arming themselves against the blow of unanticipated news.

5. From recall and understanding of single pieces of information to developing a sense of the essence of information – philosophical debate

Whenever we give information, we present information as a bundle consisting of single pieces of information. We all believe that in order to use this information for an intelligent decision, patients must *understand*, *recall*, and *process* it [23]. Here, a philosophical question comes into play. Do we live in a world consisting of singular items? Or: do we live in a world presenting itself in chaotic manifoldness? Are relevant decisions based on a prudent weighing of single arguments in favour or against that decision? With relevant decisions, I mean decisions such as to stay with this partner for as long as possible, to have children, to engage in a project from the heart. I would postulate that we followed an intuitive path that seemed appropriate and in line with our and the other's sense of being. In New Phenomenology the two ontological categories in which the world presents itself are called 'constellation' and 'situation' [24,25].

A 'constellation' is any arrangement of single elements that given enough time and effort can be disentangled into its constituent elements. Such an arrangement may be highly complicated, but in principle, it is possible to re-construct the whole from a complete list of its single components. If an individual were following the type of a 'constellation', it would be possible to thoroughly describe him or her from single characteristics of their behaviour plus a complete description of their bodily features, etc. It is plausible to assume that individuals are hard to describe in such a way – they are more than the sum of their constituents.

In contrast to 'constellations', the term 'situation' assumes that the world – and human beings and a relationship between them – cannot be constructed from single elements. Instead, a situation

has something to say, it is set off from the environment. Meaning, however, is not derived from single elements but dissolved in chaotic manifoldness. So is the nature of a caring or loving relationship: It is hard to say why we love person A and not person B if we try to justify our choice with single features of person A. We are sure that we made the right choice and yet are unable to argue on the basis of single elements. If we apply the typology of 'situation' and 'constellation' to the interaction between a health care professional and a patient, the following sequence seems plausible: Both start with the exchange of single pieces of information (e.g. Doctor: 'I'd like to talk about the results of the x-ray and discuss what that means for the future therapy'. Patient: 'That's fine. I also wonder whether I still have to take the pink pills'). Then, the doctor might give about 10 pieces of information about the x-ray plus some 15 more about the rationale behind taking the pink pills. It is quite clear that the average individual will not be able to recall completely what has been said, because the capacity to memorise new information is limited. In terms of new phenomenology, a constellation develops into a situation – the patient can no longer report single elements from memory but will certainly be able to phrase a summary like: 'The x-ray showed nothing really dangerous, and apparently she wants me to go on with the pink ones'. Is the patient's decision to continue with the pink ones a bad decision because she cannot justify it with single arguments? Or should we accept that it might be a wise decision because she developed a sense of trust in the competence and benevolence of her doctor ('She cares about me')? If they move from a mere constellation of single elements to a situation, individuals follow the trajectory from analytical thinking to intuitive thinking [26], they manage to discover the gist of what has been said [27]. Gist formation is a prerequisite for survival in a world that offers so many single elements of information that we are unable to process them in an analytical way. 'The ability to form concepts (i.e., sparse mental representations of multiplicity of entities in the environment and mind) lies at the very core of human cognition. Without it, humans would not be able to efficiently classify, organize, identify, nor store complex information – in short, humans would not be able to make sense of the world in which they live' (quotation from Vigo R. [27]). We know from some earlier papers that patients like explicit structure [17,28,29]. Perhaps this preference for a structured course of a consultation, including a structured way of presenting information is preferable because it helps make sense of a consultation. Then, explicit structure has at least two functions: under some circumstances it helps improve recall, in general it helps develop meaning. However, this cannot mean that we abstain from giving many single elements of information: individuals need the rich raw material of single entities to be able to form a situation that contains meaning.

The problem is that we do not know what this meaning is unless we ask the patient. My favourite question goes like: 'If your husband (partner, daughter, etc.) asks you what we talked about, what will you tell him?'. The answer to this question often comes as a surprise; it illustrates the well-known fact that information giving is a two-ways process. It is only after a patient *having informed me* that I realise which information is missing or which element of information was given a much higher relevance than the speaker had intended to assign to it.

References

- [1] Karazivan P, Dumez V, Flora L, Pomey MP, Del Grande C, Ghadiri DP, et al. The patient-as-partner approach in health care: a conceptual framework for a necessary transition. *Acad. Med.* 2015;90:437–41.
- [2] Seale B. Patients as Partners. https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/Patients_as_partners.pdf2016 (Last accessed 20 October 2019).
- [3] Funnell MM. Patient empowerment: what does it really mean? *Patient Educ. Couns.* 2016;99:1921–2.
- [4] Pieterse AH, Finset A. Shared decision making—much studied, much still unknown. *Patient Educ. Couns.* 2019;102:1946–8.
- [5] Seewoonarain S, Johnson AA, Barrett M. Informed consent in orthopaedics: do patients in the United Kingdom understand the written information we provide? *Bone Jt. J.* 2018;100-B:1253–9.
- [6] Sepucha KR, Atlas SJ, Chang Y, Freiberg A, Malchau H, Mangla M, et al. Informed, patient-centered decisions associated with better health outcomes in orthopedics: prospective cohort study. *Med. Decis. Making* 2018;38:1018–26.
- [7] Yentis SM, Hartle AJ, Barker IR, Barker P, Bogod DG, Clutton-Brock TH, et al. AAGBI: consent for anaesthesia 2017: association of anaesthetists of Great Britain and Ireland. *Anaesthesia* 2017;72:93–105.
- [8] Chirmes N, Marshall SD. The illusion of informed consent. *Anaesthesia* 2018;73:9–14.
- [9] Ackermann S, Bingisser MB, Heierle A, Langewitz W, Hertwig R, Bingisser R. Discharge communication in the emergency department: physicians underestimate the time needed. *Swiss Med. Wkly.* 2012;142: w13588.
- [10] Synnot A, Ryan R, Pricor M, Fetherstonhaugh D, Parker B. Audio-visual presentation of information for informed consent for participation in clinical trials. *Cochrane Database Syst. Rev.* 2014;CD003717.
- [11] Stacey D, Legare F, Lewis K, Barry MJ, Bennett CL, Eden KB, et al. Decision aids for people facing health treatment or screening decisions. *Cochrane Database Syst. Rev.* 2017;4:CD001431.
- [12] Wolderslund M, Kofoed PE, Holst R, Waidtlow K, Ammentorp J. Outpatients' recall of information when provided with an audio recording: a mixed-methods study. *Patient Educ. Couns.* 2020;103:63–70.
- [13] Soederberg Miller LM, Gibson TN, Applegate EA, de Dios J. Mechanisms underlying comprehension of health information in adulthood: the roles of prior knowledge and working memory capacity. *J. Health Psychol.* 2011;16:794–806.
- [14] Gobet F, Lane PC, Croker S, Cheng PC, Jones G, Oliver I, et al. Chunking mechanisms in human learning. *Trends Cogn. Sci.* 2001;5:236–43.
- [15] Langewitz W, Ackermann S, Heierle A, Hertwig R, Ghanim L, Bingisser R. Improving patient recall of information: harnessing the power of structure. *Patient Educ. Couns.* 2015;98:716–21.
- [16] Ackermann S, Ghanim L, Heierle A, Hertwig R, Langewitz W, Mata R, et al. Information structuring improves recall of emergency discharge information: a randomized clinical trial. *Psychol. Health Med.* 2017;22:646–62.
- [17] Siegrist V, Langewitz W, Mata R, Maiori D, Hertwig R, Bingisser R. The influence of information structuring and health literacy on recall and satisfaction in a simulated discharge communication. *Patient Educ. Couns.* 2018;101:2090–6.
- [18] Lehmann V, Labrie NHM, van Weert JCM, van Dulmen S, de Haes H, Kersten MJ, et al. Provider caring and structuring treatment information to improve cancer patients' recall: does it help? *Patient Educ. Couns.* 2020;103:55–62.
- [19] Sleptsova M, Weber H, Schopf AC, Nubling M, Morina N, Hofer G, et al. Using interpreters in medical consultations: what is said and what is translated—a descriptive analysis using RIAS. *Patient Educ. Couns.* 2017;100:1667–71.
- [20] Beach WA, Easter DW, Good JS, Pigeron E. Disclosing and responding to cancer "fears" during oncology interviews. *Soc. Sci. Med.* 2005;60:893–910.
- [21] Monsell S. Task switching. *Trends Cogn. Sci.* 2003;7:134–40.
- [22] Rubinstein JS, Meyer DE, Evans JE. Executive control of cognitive processes in task switching. *J. Exp. Psychol. Hum. Percept. Perform.* 2001;27:763–97.
- [23] Sheldon S, Ruel A. The many routes of mental navigation: contrasting the effects of a detailed and gist retrieval approach on using and forming spatial representations. *Psychol. Res.* 2018;82:1130–43.
- [24] Langewitz W. Beyond content analysis and non-verbal behavior—what about atmosphere? A phenomenological approach. *Patient Educ. Couns.* 2007;67:319–23.
- [25] Schmitz H. Höhlengänge. Über die gegenwärtige Aufgabe der Philosophie. Berlin: Akademie-Verlag; 1997.
- [26] Eraut M. Non-formal learning and tacit knowledge in professional work. *Br. J. Educ. Psychol.* 2000;70(Pt 1):113–36.
- [27] Vigo R. The GIST of concepts. *Cognition* 2013;129:138–62.
- [28] Enzer I, Robinson J, Pearson M, Barton S, Walley T. A reliability study of an instrument for measuring general practitioner consultation skills: the LIV-MAAS scale. *Int. J. Qual. Health Care* 2003;15:407–12.
- [29] Robinson J, Walley T, Pearson M, Taylor D, Barton S. Measuring consultation skills in primary care in England: evaluation and development of content of the MAAS scale. *Br. J. Gen. Pract.* 2002;52:889–93.

Wolf Langewitz

Basel University Hospital, Psychosomatic Medicine - Communication
in Medicine, Basel, Switzerland

E-mail address: Wolf.Langewitz@usb.ch (W. Langewitz).