

The sample abstract below illustrates many aspects of an optimal abstract¹. It provides the necessary information in a clearly structured format. You may use this as an exemplification when preparing your own abstract. If possible, please add also a section on your future research plans.

Since 1990 I have been involved in several research projects regarding risk perception and risk communication. My PhD project was focused at unrealistic optimism and perceived risk as a potential barrier for HIV-protective behaviour of adolescents. Nowadays, I participate in a large study on risk perception and decision-making by women at risk for hereditary breast cancer and a randomised trial that evaluates a decision support program that provides individualised risk information for the treatment of an asymptomatic aneurysm of the aorta. At our department we also developed a 3-week elective course on Shared Decision Making and Risk Communication for 2nd year medical students. Given this background there are three potential topics that I would like to address at the workshop.

Measurement of perceived risk

A general definition of risk is the probability that a negative event occurs, encompassing the elements "probability" and "severity" of the event. However, usually the measurement of perceived risk is focused only at the probability of the risk. A variety of measures exists to assess perceived probability (e.g. Weinstein, 1999; Woloshin et al, 1999; Woloshin et al, 2000). It can be assessed absolutely (own risk) or relatively (compared to an average or similar other or compared to other events). Scales can measure probability in numerical or verbal terms. Concerning the first, several formats are possible like frequencies, percentages, odds, or a magnifier glass to enhance the expression of small probabilities. Also verbal linear scales differ in the number of categories and terms used to denote the magnitude of the probability. These are just some examples of the diversity in the measurement of perceived probability. Main question is whether there should be more parsimony and unity in the way we measure perceived probability? And if we have to choose among measures which criteria should we use? Should we focus on validity and reliability, user-friendliness, or the goal of the measurement (e.g. assessment of accuracy necessitates a numerical estimate)? Or should we use a composite measure encompassing verbal and numerical aspects of risk? Do the different measures capture the same underlying concept of perceived probability, or is perceived probability a multidimensional concept? What is the basic underlying concept we try to measure: probability or uncertainty?

Risk communication: Which format?

If the magnitude of the risk is known, communicators have to choose a format in which way to communicate the risk. In general we can use a numerical, verbal or graphical display and within each category there exists quite some diversity. We advise medical students to use a frequency format (1 in x) with the lowest x possible when choosing for a numerical display (see Gigerenzer & Hoffrage, 1995). We also suggest qualifying these numbers verbally to guide the interpretation of the patient. There even have been suggestions to standardize the use of verbal risk terms (Calman & Royston, 1997), but this has not met general acceptance. The use of graphical displays seems very promising (Lipkus & Hollands, 1999), especially in the present ICT times. Should we choose one format to communicate a risk or use a combination of several formats? Which criteria to apply in selecting (a) format(s): promoting accuracy and understanding, inducing fear, or recipient's characteristics (e.g., numeracy,

¹ With kind permission of Dr. Wilma Otten, participant of the Synergy workshop "Risk perception and risk communication", Island of Kos, 2003.

educational level)? And who should choose the formats: the communicator or the recipient? Regarding the latter, one can imagine that if a recipient had a numerical estimate of the risk, the recipient could visit a website and choose to have this estimate represented in a variety of ways.

Does risk affect behavior?

Many behavioral models, especially in the health domain, have incorporated risk as an important element in behavioral change (e.g., Health Belief Model, Precaution Adoption Process, Protection Motivation Model, Theory of Reasoned Action, Theory of Planned Behavior). However, risk seems to have a modest impact on behavioral change for a variety of reasons (e.g., Weinstein & Nicolich, 1993). Also in the studies I have conducted I was usually very disappointed about the impact of perceived risk on behavior (or intentions). Do we overestimate the role of risk in guiding protective behavior? Should risk have a different role, for instance as a kind of threshold that when passed a person is sensitive to other variables (e.g., self-efficacy) that guide his behavior (like a stage model). Maybe behavior is not the ideal outcome measure for risk communication and should we focus on the impact on affective state or cognitive scenario's?

References

- Calman, K.C. & Royston, G.H. (1997). Risk language and dialects. British Medical Journal, *315*, 939-42.
- Gigerenzer, G. & Hoffrage, U. (1995). How to improve Bayesian reasoning without instruction: Frequency formats. Psychological Review, *102*, 684-704.
- Lipkus, I.M. & Hollands, J.G. (1999). The visual communication of risk. Journal of the National Cancer Institute Monographs, *25*, 149-163.
- Weinstein, N.D. (1999). What does it mean to understand a risk? Evaluating risk comprehension. Journal of the National Cancer Institute Monographs, *25*, 15-20.
- Weinstein, N.D. & Nicolich, M. (1993). Correct and incorrect interpretations of correlations between risk perceptions and risk behaviors. Health Psychology, *12*, 235-245.
- Woloshin, S., Schwartz, L.M., Black, W.C. & Welch, H.G. (1999). Women's perceptions of breast cancer risk: how you ask matters. Medical Decision Making, *19*, 221-229.
- Woloshin, S., Schwartz, L.M., Byram, S., Fischhoff, B. & Welch, H.G. (2000). A new scale for assessing perceptions of chance: A validation study. Medical Decision Making, *20*, 298-307.