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Endpoints in medical communication research, proposing a framework of functions and outcomes

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ABSTRACT

Objective: The evidence base of medical communication has been underdeveloped and the field was felt to be in need for thorough empirical investigation. Studying medical communication can help to clarify what happens during medical encounters and, subsequently, whether the behavior displayed is effective. However, before effectiveness can be established, one should argue what functions or goals the communication has and what outcomes are relevant in medical communication research.
Results and conclusions: In the present paper, we first suggest the six function model of medical communication based on the integration of earlier models. The model distinguishes (1) fostering the relationship, (2) gathering information, (3) information provision, (4) decision making, (5) enabling disease and treatment-related behavior, and (6) responding to emotions. Secondly, a framework for endpoints in such research is presented. Immediate, intermediate and long-term outcomes are distinguished on the one hand and patient-, provider- and process- or context-related outcomes on the other. Based on this framework priorities can be defined and a tentative hierarchy proposed. Health is suggested to be the primary goal of medical communication as are patient-related outcomes. Dilemmas are described. Finally, in medical communication research, theory is advocated to link health care provider behavior or skills to outcomes and to connect intermediate outcomes to long-term ones.
Practice implications: By linking specific communication elements to concrete endpoints within the six function model of medical communication, communication will become better integrated within the process of medical care. This is helpful to medical teachers and motivational to medical students. This approach can provide the place to medical communication it deserves in the center of medical care.

1. Introduction

Medical communication is at the heart of medicine. Without good communication neither a diagnosis nor a treatment plan can be established. Moreover, how could advise be given or the emotional implications of disease handled? Still, the quality of medical communication has long been taken for granted. Junior doctors would develop their personal style from watching their teachers' behavior. Over the last decades though, medical communication has been addressed in the literature. Moreover, it became a teaching subject in many medical curricula and attracted the attention of researchers.

What good doctor–patient communication entails has been described primarily in the context of patient-centered medicine. Yet, the ideological base of patient-centered medicine is better developed than its evidence base is [1]. Likewise, the evidence base of medical communication has long been underdeveloped. The need for in-depth research in this area is pressing though. Rather than convincing health care professionals of the relevance of communication skills on ideological grounds, the field will benefit in the long run from gaining precise evidence to substantiate its effectiveness.

Unfortunately, the research addressing medical communication seems to be characterized, first, by the use of a variety of endpoints or outcomes, often chosen without further justification and priorities set among them. This may hamper the interpretation of results and the strength of the evidence. For example, in a large randomized study Kinmonth et al. [2] found a positive effect of a patient-centered communication intervention on patient satisfaction but, at the same time, a negative effect on disease-related parameters. How should such results be evaluated and weighed? Is the intervention investigated to be judged positively or negatively?

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It is still unclear what priority should be given when findings are contradictory. Secondly, short term and longer term endpoints are not always distinguished explicitly. For example, in a study investigating the effect of communication skills training among oncologists, the intended behavior change was indeed achieved [3]. Such behavior, however, does not necessarily translate into improved patient outcomes. Doctors may learn to use more open questions. Still, if they would use them in the wrong moment or with the wrong person this might even be counterproductive [4]. Thus, the relation between consultation behaviors and longer term outcomes should be clarified before accepting the positive outcome of such trial. Thirdly, communication is often used as a container concept. In many studies, a battery of communication skills is assessed without further differentiation between the communication elements. If a positive result is found in such studies, it remains unclear which of the communication elements have contributed to the effects. Having a shared framework of relevant goals and endpoints among communication researchers, will allow for systematic study of the effects of (elements of) medical communication. More important, it will permit setting priorities among outcomes and, thus, create a stronger basis for building evidence in the field. Such evidence can then support teaching as well as clinical practice.

Ideally, medical communication research will first clarify what happens during medical encounters. Subsequently, it can explain if what happens, i.e., the communicative behavior displayed, is effective or not. However, why some behavior is to be considered effective or ineffective depends on the relation of such behavior to outcomes. Therefore, one needs a framework of relevant outcomes. What outcomes are relevant depends, in turn, on the goals of medical communication. In the current paper, we therefore aim, first, to discuss the goals, or functions, of medical communication. Secondly, we propose a framework for endpoints derived from these goals and a provisional outcome hierarchy. Finally, to further strengthen the evidence base of medical communication, we discuss how theory can contribute to our field.

2. A framework defining goals of the medical communication

Whether medical communication is effective, depends on the goals pursued. What are these goals when the patient and the health care professional are communicating? Different models have described the goals or functions of medical communication (see Fig. 1). Bird and Cohen-Cole [5] were among the first authors to propose a model for the functions of medical communication. They addressed the medical interview and distinguished three basic functions: (1) gathering data, biological and psychosocial, (2) responding to patients' emotions, and (3) educating patients and influencing their behavior. This model has similarities but is not identical to the three function model, that was described by Lazare et al. [6]. They distinguished the need (1) to determine and monitor the nature of the health problem, (2) to develop, maintain and conclude the therapeutic relationship, and (3) to carry out patient education and implementation of treatment plans [6]. De Haes and Teunissen [7] and Smets et al. [8] have described a five function model: (1) relationship building, (2) information exchange, (3) decision making, (4) giving advice, and (5) handling emotions. Recently, Epstein and Street [9] have proposed a framework to guide future research in patient clinician communication in cancer settings. They distinguish six core functions of patient clinician communication: (1) fostering relationships, (2) information exchange, (3) making decisions, (4) enabling self-management, (5) responding to emotions, and (6) managing uncertainty.

As becomes evident from Fig. 1, these models show overlap as well as differences. We propose a six function model of medical communication. First, relationship building or *fostering the relation* is considered in three earlier models. Relevant elements like respect, trust and rapport are necessary components of a therapeutic relationship. Actually, the quality of the relationship between patient and health care provider is now generally assumed to be an essential basis for the quality of health care. Without a good relationship none of the other goals of the medical encounter can be pursued in an optimal manner.

Next, exchange of information is mentioned. Information exchange however, involves in fact both information gathering and information giving. On the one hand, clinicians need information from their patients about symptoms, experience and expectations for establishing a diagnosis and treatment plan. In this case, doctors are rather at the receiving end and patients rather have an information giving role. Patients, on the other hand, need information to understand their illness and treatment, to make decisions and to cope throughout the disease trajectory. When information

	Three function model (Bird & Cohen-Cole)	Three function model (Lazare, Putman & Lipkin)	Model of medical communication functions (de Haes & Teunissen; Smets, van Zwieten & Michie)	Framework for patient centred communication (Epstein & Street)	Six function model of medical communication
1		Develop, maintain & conclude the relationship	Relationship building	Fostering relationships	Fostering the relationship(s)
2	Data gathering	Determine and monitor the nature of the problem	Information exchange: gathering and giving information	Information exchange	Gathering information
3					Providing information
4			Decision making	Making decisions	Decision making
5	Educating patients	Carry out education and implementation of treatment plans	Giving advice / promoting health related behavior	Enabling self management	Enabling disease & treatment related behavior
6	Responding to patient emotions		Handling emotions	Responding to emotions	Responding to emotions
7				Managing uncertainty	

Fig. 1. Development of the six function model of medical communication.