Patient non-adherence and healthcare-provider inertia are clinical myopia

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Abstract

The efficient implementation of healthcare is often jeopardized by the lack of patient adherence to medical recommendations and by inadequate healthcare-provider adherence to current guidelines, a phenomenon recently described as “clinical inertia”. We propose here a theoretical model, based on concepts developed in the field of analytical philosophy of mind, that describes the mental mechanisms shared by the two phenomena, thus explaining their synergistically deleterious influence on the efficiency of care. We suggest that a failure to give preference to the long-term benefits of treatment intensification may represent a common mechanism underlying both patient non-adherence and physician clinical inertia. We dub such a failure as “clinical myopia”. The model is explained in the context of clinical observations made in type 1 and 2 diabetic patients. However, it may also be relevant to other asymptomatic chronic diseases.

Résumé


La mise en œuvre efficace du soin est souvent mise en péril par le manque d’observance du patient des recommandations de son médecin et par une observance insuffisante du médecin des « recommandations » en cours, un phénomène décrit récemment sous le nom d’inertie clinique. Nous proposons ici un modèle théorique, se référant à des concepts développés dans le cadre de la philosophie analytique de l’esprit, qui décrit les mécanismes mentaux partagés par les deux phénomènes et qui explique la synergie de leur influence délétère sur l’efficacité du soin. Nous suggérons que l’incapacité de donner sa préférence aux bénéfices à long terme de l’intensification du traitement peut représenter un mécanisme commun aux deux phénomènes. Nous appelons « myopie clinique » cette incapacité. Le modèle sera décrit dans le contexte d’observations cliniques faites dans le cadre du diabète de type 1 et 2. Cependant, il peut être appliqué à d’autres maladies chroniques asymptomatiques.

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Nowadays, medicine is often dealing with asymptomatic chronic diseases by aiming to normalize a specific number (such as the level of HbA1c, blood pressure or LDL cholesterol) to prevent disease complications. Initially used to describe the process of adjusting, drop by drop, the pH of a buffer, the concept of titration in medicine represents the process of gradually adjusting the dose of a medication until the desired effect is achieved. Patients may find this hard to understand, while physicians are trained to treat diseases and relieve symptoms rather than to propose preventive strategies such as changes in lifestyle or to “titrate” therapies on the basis of a number. This paradigm shift in medicine may therefore explain the frequent failure of care in such diseases, resulting in part from patient non-adherence, the absence of concordance between patient behaviour and medical recommendations, and from the lack of adherence of the healthcare-provider (HCP) to current guidelines, a relatively new concept referred to as “clinical inertia” [1].

We propose that these two phenomena not only look similar but, indeed, share a common mechanism. For this purpose, we propose a theoretical model to describe how both the patient and HCP make their decisions. This model, largely based on con-
cepts developed in a field rarely explored by medicine — namely, the philosophy of mind — is explained in the context of clinical observations made in type 1 and type 2 diabetic patients. However, the model may also be relevant to other asymptomatic chronic diseases.

1. Three-gateway entry into adherence or non-adherence: a novel theoretical framework

Fig. 1 represents a tentative description of the mental processes leading to the acceptance of performing a therapeutic task (such as measuring blood glucose). In general, patients may be non-adherent to part of their treatment because:

- they don’t want to do it (lack of desire);
- they don’t know what to do or how to do it (lack of knowledge and skills);
- they don’t believe they can do it or that it is necessary to do it, or that the advantages of doing it are more important than the inconvenience (lack of appropriate beliefs);
- they believe it is dangerous (effect of an emotion, fear);
- or they don’t have the means to do it (lack of resources).

According to this model, there are two initial gateways into adherence or non-adherence:

- first, knowledge and skills, or the lack thereof, the traditional target of therapeutic education;
- and second, emotions, the target of empathy.

The role of beliefs in adherence is well-known and appears in several models in the psychosocial literature, such as the Health belief model. The novelty of the model presented in Fig. 1 is that it explicitly involves several other types of mental states. Thus, emotions that are the consequence of an event (for instance, the fear resulting from the occurrence of a severe hypoglycaemic episode) can result in a revision of desires and beliefs. The role of emotions in triggering non-adherence is readily demonstrated by, for example, hypoglycaemia, the complication that diabetic patients fear the most. The respective roles of knowledge and emotions as possible gateways to adherence or non-adherence can be illustrated by investigating the effect of knowledge of the results of the Diabetes Control and Complications Trial (DCCT): this knowledge encouraged significant numbers of patients to want to improve their glycaemic control; however, the fear of hypoglycaemia and, in women, weight gain were significant impediments to the clinical implementation of the results of the DCCT [2].

Knowledge, skills, desires, beliefs and emotions are referred to in the analytical philosophical literature as “intentional mental states” because they consist of an attitude that has a content [3]. For instance, the mental state “I fear that if I increase the insulin dose, I will go hypo” can be described analytically as “I fear that (p)”, which is an attitude (fear), the content of which (p) = (“if I increase the insulin dose, I will go hypo”). As shown in Fig. 1, there are other mental states, such as pain or pleasure. These are referred to as “non-intentional” because they have no content: I can say where I feel pain (my foot), I can describe the sensation (itches or tickles) but I cannot say I feel pain “that”. These non-intentional mental states represent a third gateway to adherence or non-adherence. Regarding the effect of pain, it is significant that non-adherence is especially frequent in asymptomatic diseases. In the case of diabetes, the “eye–foot syndrome” is an illustration of the role in non-adherence of another non-intentional mental state — namely, indifference. Such patients present with a foot lesion that is often of long duration and are subsequently found to also have diabetes mellitus and diabetic retinopathy. Yet, many of these patients manifest a striking indifference towards their illness. In addition, Fig. 1 shows the permissive effect of resources. Indeed, social deprivation is often associated with non-adherence and diabetic complications.

2. Clinical inertia

“The goals for management are well defined, effective therapies are widely available and practice guidelines have been disseminated extensively. Despite such advances, health care providers often do not initiate or intensify therapy appropriately during visits of patients with these problems. We define such behaviour as clinical inertia: recognition of the problem, but failure to act.” This definition was given by Phillips et al. in their description of clinical inertia [1]. In their initial paper describing the phenomenon, they suggested that clinical inertia is due to the lack of HCP training and practice focused on therapeutic goals (titration technique), as well as to overestimation by HCPs of the care they provide, but also to the use of “soft” reasons to avoid intensification of therapy. Indeed, a study revealed that the main reasons given by HCPs to explain why they did not intensify therapy were that “control was improving” (41% of responses).
and “dietary non-adherence” (12%). In fact, in this study [1], the average interval between patient visits was two to three months and most patients were obese — in other words, in most cases, these “reasons” were soft.  

Fig. 1 can also be used to describe these “reasons” as the mental mechanisms that drive the HCP to clinical inertia. From this perspective, clinical inertia can be considered as a case of non-adherence, here HCP non-adherence to current guidelines. Skills represent know-how, built from past experience, and knowledge is what they know from medical training and from continuing medical education or any contact he has had with the available evidence-based medicine. Evidence-based medicine should prompt the HCP to believe that it is important to intensify therapy and to have the desire to do so. It may be useful to interpret the impact of evidence-based medicine on HCP behaviour through a description of the properties of beliefs as given by philosopher Frank Ramsey: “The degree of a belief is a causal property of it, which we can express vaguely as the extent to which we are prepared to act on it... The true beliefs are those that lead to the success of our actions, whatever the desire in question” [4]. For instance, the HCP’s desire to prescribe pump therapy will be influenced by the conviction, more or less firm, that he will have from the literature that it is superior to multiple daily injections and the success of the prescription will depend on the fact that it is more or less true ($P \text{ values in meta-analyses}$), that it is.

As for patients, the HCP’s behaviour can be influenced by emotions, the resources that he has to implement therapy and by non-intentional states. This can be illustrated by the specific case of psychological insulin resistance. The reluctance to adopt insulin therapy as treatment for type 2 diabetes when it is clearly necessary is not only seen in patients, but is a matter of concern to the HCP as well [5] and can, therefore, be considered a special case of the doctor’s clinical inertia. The literature in this area suggests that the reasons given by the doctor are not only made up of beliefs — such as, it won’t work — but also of emotions — such as the fear of hypoglycaemia and weight gain, or the fear of the patient’s reaction — and, finally, the resources the doctor may have to implement insulin therapy. The implication of non-intentional mental states like pleasure in the HCP’s professional life can be substantiated [6], but its effect on adherence to guidelines remains to be seen. Understanding these mechanisms may lead to approaches aimed at improving clinical inertia through, for example, the use of reminders in the form of checklists or flowsheets [1], or of public reporting or pay-for-performance schemes.

3. Synergy between patient non-adherence and physician clinical inertia

Having a similar structure (see the example of psychological insulin resistance above), it may likewise happen that the patient’s and doctor’s reasons enter into resonance. Again, one example is psychological insulin resistance, where “patients and physicians often collude in implicit and unspoken contracts to continue oral agents for as long as possible” [7]. In a large cohort of diabetic patients treated with one antidiabetic agent, justified intensification of therapy by the HCP occurred less frequently with less-adherent patients [8], suggesting that a patient’s non-adherence can influence the clinical inertia of the doctor.

4. Mechanism of patient adherence and clinical inertia: a common hypothesis

From time to time, a person does not act according to what is considered to be in his/her best interests, a phenomenon referred to as “weakness of will” in the philosophy of action. This concept encompasses various apparently irrational behaviours, such as the various forms of addiction, luxury, gambling, spending sprees, procrastination and the like. We have proposed elsewhere that patient non-adherence to long-term therapy represents a medical manifestation of the weakness-of-will syndrome and can be explained by a failure of patients to give priority to their future: the non-adherent patient prefers immediate rewards to efforts linked to long-term therapy [9]. Indeed, as shown in Fig. 1, the motor of action is desire and the force of a desire is influenced by the proximity of its achievement: most people have an innate tendency to prefer smaller-sooner to larger-later rewards [10]. This is due to the hyperbolic nature of the function describing the effect of time discounting (Fig. 2). Desires that can cause the action leading to non-adherence are largely present-oriented, while those that cause adherent behaviour are, in general, aimed at the future. The reward of adherence in the management of chronic diseases is often presented as “to avoid complications”. Paradoxically, this type of reward is never “received”. This may explain why non-adherence is a frequent phenomenon.

The very fact that people take care of themselves implies that they give priority to the future and we have proposed that

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**Fig. 2.** The restaurant scenario illustrating intertemporal choice. I enter a restaurant with a strong resolution to follow my diet. At $t_1$, the value of the reward linked to this resolution (my health) is more important than the value I give to the dessert I see on the menu. However, by the end of dinner ($t_2$), the value given to the dessert suddenly increases due to the hyperbolic nature of time discounting, becoming higher than the value I give to my desire to remain lean and healthy. By that time of the meal, I am not irrational if I finally decide to order the dessert, i.e. if I prefer the smaller-sooner to the larger-later reward (from reference 10).
this requires the exercise of foresight [9]. Indeed, in his essay entitled “The importance of what we care about” [11], philosopher Harry Frankfurt stated that “the outlook of a person who cares about something is inherently prospective; that is, he necessarily considers himself as having a future”. It is tempting to extend this concept from patient self-care to healthcare by an HCP which, of necessity, would also appear to be future-oriented. Incidentally, it has been suggested that physicians may have, in general, a lower time-discounting rate and are more concerned with the future than are their patients [9]. This leads us to propose that the procrastination of the HCP’s clinical inertia (“a failure to act”, according to Phillips et al.’s description of the phenomenon) represents another manifestation of weakness of will and can also be analyzed as a failure by the HCP to consider the long-term benefit to their patient: in other words, inert doctors prefer the apparent safety of immediate inaction to the long-term benefits of treatment titration which, in their mind, comes with immediate difficulties and potential side-effects.

5. Conclusion: homology between patient non-adherence and HCP clinical inertia

Although the development of novel therapeutic tools is eagerly awaited by both patients and HCPs, this cannot be enough as such new tools may be neither prescribed by physicians nor used by patients. Similarly, the publication of professional guidelines is necessary, but not sufficient, as HCPs may not always implement them. Therefore, the statement by the World Health Organization that improving patient adherence to long-term therapies would be more beneficial than any biomedical discovery needs to be extended to include developing approaches to eliminate clinical inertia.

Elucidating the mental mechanisms behind patient adherence and clinical inertia is a necessary step. We propose to define such failure in the patient’s or doctor’s mind as “clinical myopia”. This definition is derived from a time-based conception of patient non-adherence and HCP clinical inertia that is consistent with the fact that both phenomena are especially frequently seen in chronic diseases. Sharing this common mechanism, patient non-adherence and HCP clinical inertia may therefore represent not only analogous, but also homologous, phenomena. This is an important point as homology has an heuristic value: the common mechanism that makes phenomena homologous are also part of their explanation [12].

References