

Transformations in the normative character of life and health: The case of lifestyle risk factors

Anette L. Hindhede

A focus on prevention over treatment has emerged over the last 20 to 30 years as a reaction to the struggles of health services in the face of new and more complex patterns of disease that break with the medical idea that every disease includes a specific cause that can be diagnosed and cured. In preventive medicine, the goal is to avoid or reduce the risk of incidence of disease. Therefore, major international intervention studies aim to encourage patients at higher risk of disease to make prescribed lifestyle changes to reduce their risk. These practices, where a presymptomatic diagnosis is followed by intervention at the biological level to improve the suboptimal organism, are investigated through the lens of Canguilhem's theories on the normal and the pathological. Interviews with health professionals and patients who participated in a diabetes prevention intervention, display how health professionals express the view that classification as 'prediabetic' through a blood sample was an effective technical manoeuvre given existing knowledge. The classified 'prediabetics', by contrast, who had not been sick nor experienced any symptoms before the general practitioner indicated that they were outside the normal range, reflect, through narratives, a new bodily awareness in the face of their biological condition; a vitalism as a meaningful ethical demand through measurements and numbers rather than through an orientation toward the body's own senses.

Keywords: diagnosis, risk, screening, classification, normativity, vitalism, Canguilhem

Introduction

Health and sickness was historically considered as something related to destiny and faith—'God's will' (Davison, Frankel & Smith, 1992). Throughout the late nineteenth and early twentieth centuries, a turning point in the history of medicine evolved from a change in the focus on disparate, idiosyncratic symptoms as an expression of individual illness to considering disease as clusters of symptoms (Hutson, 2011: xxix). A transformation toward a classification scheme that linked medicine with science and technology bolstered medical authority and the power of physicians. Along with increasing professional authority, accumulated knowledge, and institutional legitimacy, Jutel (2011) argues that modern medicine

rests on its power to name and categorise through diagnosis. Thus, in Jutel's view, new diagnoses emerge historically but are produced socially.

In the twentieth century, emergence of a new medicine based on the surveillance of a normally distributed population is identified by Armstrong (1995). According to this author "surveillance medicine requires the dissolution of the distinct clinical categories of healthy and ill as it attempts to bring everyone within its network of visibility" (Armstrong, 1995: 395). Preconditions to surveillance, medicine are to problematise what is considered normal and a change in focus from the individual body in the hospital bed to the wider population (Armstrong, 1995: 398). Here, older techniques of hygiene are transformed into newer strategies of screening and health promotion. As an illustration, the effort to prevent rather than to cure has emerged over the last 20 to 30 years as a reaction to the powerlessness of the health services in the face of new and more complex patterns of disease which take an ever-increasing proportion of national healthcare budgets. Establishing the potential and feasibility for prevention rests on the capacity to identify modifiable risk factors (Green & Tones, 2010: 72). As an example, diabetes-related morbidity and mortality have emerged as a major public health care issue, along with the need for effective preventive interventions. Along with prevention, a shift toward replacing systems of state provision for welfare with discourses on self-management, and patient choice has emerged. Accordingly, new categorisations of potential diseases and risk factors have emerged as labels with which preventive medicine can express its concerns and set its agendas (Jutel & Nettleton, 2011). I take the 'prediabetes' classification as an example of how an at-risk disease gives rise to a new category of patients. The well person is diagnosed through identification of a test result whereby diagnosis is taken out of the doctor's hands and into the laboratory (Salter et al., 2011). Along with conditions such as hypertension and hypercholesterolemia, the prediabetes diagnosis is based on reaching a threshold level. Thus, this transformation emerges as a result of a focus on the boundaries of what is considered normal and pathological. This threshold level is quite arbitrary and has changed over time.

Presently, the health-political discourse lies in the realm of individual responsibility, with prediabetes and diabetes represented as self-induced 'lifestyle' conditions, which serves to align subjectivities with economic imperatives. It reflects the neoliberal mind-set with its support of unregulated markets and a minimal welfare state. The neoliberal agenda of health care reforms is based on the assumption that human beings will always try to favour themselves (McGregor, 2001). This individualistic tenet means that neo-liberalism develops indirect techniques for leading and controlling individuals without being responsible for them. One of the primary mechanisms is through the technology of responsabilisation, which entails that the subject becomes responsabilised by making him/her see social risks such as illness, not as the responsibility of the state, but instead in the individual domain and thus transforming it into a 'self-care' issue. 'Lifestyle' is an example of this, as it draws attention to behavioural

rather than biochemical causation and adds to the trend toward widening of the boundaries of medicine into social, psychological and behavioural fields. With 'lifestyle' as the target, the focus is on personal preventive measures, and current guidelines recommend that people should inform themselves about their increased risk and seek advice on lifestyle modifications to reduce risk. As such, political (health) authorities, in alliance with many other actors, have "taken on the task of the management of life in the name of the well-being of the population as a vital order and of each of its living subjects (Rose, 2001: 1). This is what Foucault (2007: 363) calls biopolitics, that is the political power exercised over whole populations in every aspect of human life. Knowledge of one's own biology in the sense of "health status" is therefore increasingly bound up with more general social norms of being self-responsible, self-actualising and integrated into the complex choices that responsible individuals must make in their life in the name of the so-called vital order (Novas & Rose, 2000), that is operating according to logics of vitality, not mortality. Vitalism is the idea, originating in the 18th and 19th centuries, that life cannot be explained by the principles of mechanism (Fraser et al, 2006: 1). The historical and philosophical inspiration for thinking about vital processes in contemporary circumstances comes from a variety of sources; among these is the French philosopher and physician Georges Canguilhem (1904-1995). He is known for his work in philosophy of science where he explored the nature and meaning of normality in medicine and biology along with the production and institutionalization of medical knowledge. According to Canguilhem, vitalism remains vital partly because of its epistemological role within the history of the life sciences. In *The Normal and the Pathological* (Canguilhem, 1991), he shows how modern medicine perceives disease as abnormality by operating on a positivist basis, based on the quantification of the qualitative difference between being healthy and being sick. However, the quantitative difference cannot explain what the disease is. The disease can be a quantitative difference only by posing a standard as the basis. The problem was that life did not behave as rationally and responsibly as was hoped. The organism seemed to have a capability to regulate itself and establish new norms. His point was that our standardised knowledge about the processes of life are secondary to the fact that life itself constantly violates norms. As such, the epistemological basis for modern medicine is entangled in political, economic and technological imperatives:

Between 1759, when the word 'normal' appeared, and in 1834, when the word 'normalized' appeared, a normative class had won the power to identify – a beautiful example of an ideological illusion – the function of social norms, whose content it determined, with the use that that class made of them (1991: 246).

Health, according to Canguilhem (1991: 91), is "a state of unawareness where the subject and his body are one. Conversely, the awareness of the body consists in a

feeling of limits, threats, obstacles to health". This definition is therefore distinct from and opposed to normality. Pathology, on the other hand, involves '*pathos*', which means '*suffering*' (1991: 137). Thus, it is individual suffering that mobilises awareness of the normal state. The normal mode is normal only because life is able to constitute new standards. Canguilhem differentiates vital norms from social norms by arguing that vital norms arise from and are manifested by the normativity of life itself, that is of the organism as a living being and its adaptability to the environment. The organism maintains its norm actively and adjusts it continually. Since it maintains its norm actively, the organism is normative. Social norms, on the other hand, manifest only adaptation to a particular order of society and its requirements for normativity, productivity and civility.

In relation to diabetes, this is particularly relevant, as the social norm is to be the active, responsible choosing self (by changing lifestyle-related behaviour) that is given by the availability of a category such as being prediabetic. One could therefore argue, in line with Rose (2007: 76), that the emergence of the new politics of life with prediabetes as a case may mistake social norms for vital ones by incorporating the social into the vital. More precisely, I suggest that key features of vitality may be taken as errors which are amenable for correction in the name of a social norm of health, to avoid becoming an economic burden to society. Drawing upon an extensive body of scholarship concerned with governmentality and neoliberalism, I find it particularly fruitful to build on Rose's seminal work on the psy-disciplines as forms of neoliberal governance (Rose, 1998). Thus, the new norms of at-risk diseases like diabetes and how they can be treated have emerged from the development of epidemiological knowledge, and can be seen as new ways of considering the relation between fate, life and health.

My investigation of this issue is structured as follows: The first part of this paper demonstrates that a disease categorisation such as prediabetes is not an *a priori* ontological entity, but rather – as argued by Canguilhem – contingent and reliant on knowledge and values as well as political and social priorities. The next part of the paper briefly introduces the translation from epidemiological knowledge to lifestyle intervention initiatives. The paper then presents empirical findings from interviews with health care professionals and patients diagnosed as prediabetic. Here, it is shown how the heterogeneous process through which a categorisation of patients becomes formative in relation to their sense of self and daily conduct, even as it is being contested and resisted. The paper concludes by arguing that transformations in social norms of what is considered a deviation from the normal thus has an important impact on how this is understood in society in general and particularly in peoples' everyday experience, where normative normality (e.g. underweight issues among young girls/models) may differ from statistical normality (e.g. increase in number of overweight people) or health-related normality (e.g. having symptomless prediabetes).

Diabetic risk

For Canguilhem, a norm is “a possible mode of unifying diversity, resolving a difference, settling a disagreement” (1991: 240). Diabetes is an example of a disease subject to many attempts from medicine to produce normativity; i.e. established norms that have been countered with other norms and differences have not yet been resolved. Medically, diabetes is defined by high glucose concentration in circulating blood. There is a continuous spectrum of glucose levels between those considered normal and those considered diagnostic for diabetes (Garber et al., 2008). People with diabetes produce varying amounts of insulin, but this insulin is ineffective in enabling the transfer of glucose into cells. The potential to avert microvascular and macrovascular complications through early diagnosis and intervention forms the basis for screening for diabetes. Drawing on statistical laws about the distribution of traits, it is argued that there is a correlation between glucose levels and microvascular pathologies, creating complications with the eyes (retinopathy), nerves (neuropathy), and kidneys (nephropathy) and macrovascular pathologies affecting the larger blood vessels that take their toll on the heart (coronary heart disease) and brain (strokes) (Sabanayagam et al., 2009). These associations reflect a graded, continuous association of risk factor level with increasing likelihood of an adverse health outcome. This implies that many identified prediabetics have comorbidities, such as high blood pressure and elevated cholesterol. It also implies that the phenomenon of the disease of diabetes is of the same kind as other phenomena of health; they differ only in intensity.

To reliably quantify a disease such as diabetes, it must be mapped out and subdivided. This policing of sickness has become all the more important in recent times (Porter, 1995: 39). In 1979, the National Diabetes Data Group tried to develop worldwide standards for diagnosing diabetes based on population distributions of glucose concentrations, but realised the arbitrariness of the chosen cutoff points by stating that *‘there is no consensus as to the dividing line between normal and diabetic glucose levels’* (National Diabetes Data Group, 1979: 1050).

Some 20 years later, the Expert Committee on Diagnosis and Classification (1997) recommended lowering the cutoff points, arguing that the 1979 value was less sensitive, that is it diagnosed fewer people. In 2010, the American Diabetes Association added a new diagnostic test (A1c) for diabetes and prediabetes as an alternative to fasting glucose, due to practical advantages (Cohen, Haggerty, & Herman, 2010: 5204). The change created confusion among researchers as well as among clinicians (Borch-Johnsen & Colagiuri, 2009). As a result, on a global scale, different diagnostic tests are being used in different countries, implying that: “a transatlantic trip may cure or cause diabetes simply as a result of small but important differences in diagnostic criteria” (Borch-Johnsen & Colagiuri, 2009: 2247). In addition to discussions on numerical values, many conditions influence levels of A1c. These include malaria, anaemia and smoking. Moreover, moving to an A1c-based diagnosis of diabetes has a differing impact on prevalence in different ethnic groups, leading to the argument that “reliance on HbA1c

as the sole, or even preferred, criterion for the diagnosis of diabetes creates the potential for systematic error and misclassification” (Herman & Cohen, 2012: 1067). Another impact is that – while producing a normality in terms of a homeostatic rationalisation - it substantially alters the population identified as having prediabetes (Mann, 2010).

Disregarding the norm-creating dynamics and controversies in defining diabetes and prediabetes, a number of studies – in the pursuit of health and the elimination of unfitness – argue that intensive lifestyle interventions through modifying individual attitudes and judgement via education and counselling can prevent or delay progression of prediabetes. From these studies, it is quite clear that there are patients who remain with prediabetes despite intensive lifestyle intervention (Hindhede & Aagaard-Hansen, 2014). These studies all include a new idea of corporeality in that they are based on the idea that there is a direct relation between the biology and conduct of the individual. Further, the interventions are designed so that the individual’s corporeality becomes opened up to choice. The assumption in such interventions is that scientific objectivity enhances the authority of the prediabetes diagnosis and that this knowledge provides the basis for prudent behaviour. The interventions therefore “coalesce around a form of vitalism” (Rose, 2007: 27), that is over the value to be accorded to life itself (e.g. the right to lift and the right to choose).

Methods

The interviews presented in this paper are based on a qualitative study nested within a pilot study investigating the applicability of diabetes prevention to general practice in Denmark. The trial was conducted in eight general practices in eastern and western Denmark. A total of 64 patients were recruited by general practitioners (GPs) and a ‘lifestyle’ intervention was offered focusing on physical activity and weight-loss with four consultations with GPs and/or nurses within a period of 3 to 4 months, with length of consultation from 10 to 30 minutes.

To explore how people understand and navigate the ‘risk’ of diabetes, 10 in-depth interviews were conducted. The individuals were selected opportunistically from the cohort in the feasibility study. Each participant’s demographic indicates a relatively homogeneous group in terms of age, health status, and comorbidities. All participants identified themselves as either working or middle class. Social class intersects with other sociodemographic factors, such as age, gender, and ethnicity. Due to space considerations, these factors’ influences on the findings are not discussed in this paper. Methodologically, however, the sample would have benefitted from including interviewees who had not succeeded in implementing lifestyle changes.

The interviews were conducted six months after provision of diagnosis. A semi-structured topic guide based on how the patients related to themselves as somatic individuals (prediabetics) and their narratives in relation to capacities to control, manage, engineer, reshape, and modulate their vital capacities was used

for the interviews, which lasted approximately 90 minutes. The interviews were conducted in the patients' own homes, and in six cases, the significant other was present at least part of the time. Additionally, 14 health care professionals (HCPs) who participated in the trial were recruited as 'key informants' (Marshall, 1996), including 8 GPs and 6 practice nurses. These interviews were conducted as focus group interviews, and took place at two geographic locations in Denmark corresponding with the urban and rural Denmark mentioned above. The HCPs were invited to discuss the pilot study's results and their experiences in relation to it. Group interviews provide an opportunity to focus on the social negotiation of prediabetes and its prevention among HCPs. Topics for these interviews included approaches to patient communication, views of themselves as providers, and the effectiveness of categorisation tools. As key informants, they were expected to contribute background information relating to their respective professional fields (Gilchrist and Williams, 1999).

The analysis entailed reading and re-reading all the data in a systematic search for recurring items of interest, such as views that seemed unusual, noteworthy or contradictory in relation to the theoretical arguments. Thus, in order to display the heterogeneous process through which a categorisation of patients becomes formative in relation to their sense of self and daily conduct, even as it is being contested and resisted, I focused on how different patients constructed the causes, effects and interventions that would address prediabetes, and how that corresponded with the HCPs' constructions. The highlighted themes come from a close study of the interview transcripts, and from my notes on the interviewees and the settings in which the interviews took place. The cases presented were chosen, because they represent commonalities pertaining to lifestyle changes in relation to being classified as being prediabetic.

Health as normativity

As reported elsewhere (Hindhede, 2014), an interesting finding is the importance that GPs placed on labelling patients' condition as 'prediabetes', which, according to them, had a strong influence on patient motivation. None of them had used the term 'prediabetes' in communication with their patients before. Prior to participation in this study, they had used terms like 'grey zone' and 'high risk of diabetes'. Participating in the study made them more aware of prediabetes. The intervention pushes the patient to address the risk; several of the health professionals had mixed feelings about the effectiveness of lifestyle interventions and found it difficult to manage the increasing workload from such patients. One GP reflected on how she found the term prediabetes useful to her ability to get messages across: '*the prediabetes diagnosis motivates the patient to do an effort*'. The assumption is that awareness and knowledge provide the basis for '*healthy choices*'. In so doing, the assumption tacitly adopted is that 'understanding' is something cognitive, that is it is about comprehension. Mirroring findings from previous work, it seems reasonable that the readiness to accept responsibility for one's health de-

depends on views held about the aetiology of illness. In line with the findings of Davison et al. (1991), in this study, there were similarities between causes raised by patients and by professionals, with differences in emphasis, however. In general, the GPs stated that the diagnosis had made it easier to work with the patients: “You can tell the patient that it might be necessary to add on some medication. This enhances the patient’s motivation (...) you can say to the person with prediabetes, “you can do something about this””. The proportion of glucose is mediated through factors such as gender, family history and age, which individuals are powerless to modify. Thus, behaviour change may or may not lead to a reduction in assessed blood glucose level. Linking risk to the lifestyle of the individual, therefore, is an over-interpretation of relative risk figures and an exaggeration of the treatment effect; this creates the potential that individuals consider themselves the largest threat against their own health.

Patient narratives provided a context for their construction of what had led to their prediabetes. In these narratives, risk factors became reified properties that the patient had: “... sometimes, when I consult the nurse we look at the numbers and she says “where have you not compiled?” and then we review the last two months (...) Because you know, I do like bread and drippings”. Thus, the epidemiological conception of risk, seen as graduated, had been translated to a more polarised understanding in which risk was either high or low and present or not. Destiny no longer dictated one’s future health condition; rather, via monitoring and testing the body, the patients were trying to better their chances in life. Thus, for each of them, a profile of risks is shaped in relation to which advisable life choices are to be made “... in the name of the newly empowered autonomy of – and obligations of – the contemporary (...) biological citizen” (Rose, 2009: 18).

Health as a forward thrust

Changing diet and becoming more physically active was described as important. However, these practices were closely followed by such factors as the importance of relatives or friends standing shoulder-to-shoulder with the prediabetic. Patients made sense of their prediabetes by locating it within their life story and considered their practices as embedded in shared contexts:

I practice hard but then I must practice harder. I don’t eat butter and I try to avoid everything with too much fat and sugar, cakes and so on. I eat rye bread [instead of white bread] and lots of vegetables. My family can’t stand the sight of it; its rabbit food in their opinion. And occasionally, I eat the wrong things – my mouth is not completely clenched, you know.

It seems as though these issues did not feature to the same extent in the health professional causality framework. An exception was the statement of a nurse, who acknowledged how prediabetes was also associated with social deprivation: “Sometimes we bombard the patients with our diagnosis, where the problem can

be mentally, imbalance, and stress. The problem is that the patient has to do all the work him/herself. This is too demanding for the socially disadvantaged”.

According to Canguilhem (1991), the transition from normal to the pathological proceeds in a continuous and reversible fashion. The blood sugar level changes smoothly from normal to hyper- or hypo-level. Pathology may therefore be expressed quantitatively. Further, the difference between health and illness does not correspond in any simple way to the difference between the normal and the pathological. Nonetheless, for the patients in this trial, the concepts of health and normality were used synonymously. Health in this context is an ideal based on criteria from epidemiology (Greco, 2009: 28). As such, the norms of health are social norms. Canguilhem stresses the importance of distinguishing these from norms that are organic (or in his terms: *vital*) (ibid: 162). The rhetorical strategies adopted to promote behavioural changes among the participants involve a transformation of how they are invited to think about themselves in relation to their own capacities and those of the state.

The following is an example of how the exercise of citizenship is supplanted by an emphasis on individual duties and responsibilities in the form of prediabetic diagnosis. Burt is 65 years old. He lives with his wife in an old farmhouse, the childhood home of his wife. Most of the land has been divested. Burt used to work in foundries and as a butcher. Now he and his wife share a cleaning job. He explains how he used to smoke 60 cigarettes per day and, after quitting smoking, gained a lot of weight. Burt reflects on the diagnosis and how eating healthier food restores him a measure of ‘forward thrust’ to a previous prediabetes-free life:

The doctor told me that I have lived too well (...) my wife prepares food for me that is too good and that is the reason (...) he told me that if I continue eating like I do now and do some exercise then he thinks that it can be kept down so that I don't need to take medication' (...) The hard part is losing weight (...) Why are some people bigger than others?

For Canguilhem, Burt is normative not to the extent that he adapts to the environment, but because of creative appropriation of the environment. Eating ‘good food’ does not necessarily deny biophysical matters of fact. Rather, it involves the disregard of biophysical matters of fact (Greco, 2009: 32). The point is, though, that this disregard is not justified in the context of medicine, as Burt is encouraged to change consumption patterns. Burt is also aware that there are circumstances and conditions that he cannot influence and therefore cannot control. This understanding is derived by connecting with the impact of the social context in which he lives his daily life. Ideas about the causation of disease may therefore not be the same as ideas about maintenance of health (Nettleton 2006: 45). This is in line with Ljungdahl (2013), who interviewed people with full diabetes. This author found that the problem with diabetes education is patients denying or ignoring their state of risk. The healing happens when patients see themselves as objects in

need of care. However, in Ljungdahl's study, the patients were told that they could avoid future complications if they changed lifestyle. The prediabetics were promised that they could avoid becoming diabetic if they changed lifestyle. The window of opportunity was open for both diabetic categories, however the promise varied. Thus, in Ljungdahl's study, patients practiced certain lifestyle norms that involved a critique of existing norms (e.g. by eating more cheese than recommended) or by experiencing the norms presented by health professionals by adapting them to their own preferences. Nonetheless, this may be a reason why in this study prediabetics continued to make lifestyle changes although they may not have been successful overall. The intervention was designed and promoted as a practice that restores control while overlooking competing influences from other levels of causality. While risk factors are observable in individuals, they arise and are reinforced within a context. This means individual risk behaviours can be considered mere epiphenomena and their prevention and promotion disregard the socio-political determinants of health (McKinlay and Marceau 2000).

Health and chemical artificiality

Canguilhem (1991: 255) establishes the relation between the social and the vital by introducing the concept of imitation (mimesis) of the vital through the social: "social regulation tends toward organic regulation and mimics it without ceasing for all that to be composed mechanically". Thus, society lacks an inner normativity and therefore, social norms tend to absorb the dynamic of the vital norms. In this way, the social norms never lose their mechanical character. Treatment with insulin is a way of re-establishing the natural vital norm in the body of the diabetic. As such, chemical artificiality seeks to replace the damaged normativity of the diabetic body's vital processes and "life itself is therefore no longer mystical or even "natural" – it is technical and prosthetic" (Rose, 2001: 37). Thus, life can be brought home in the form of pills, or it can be work that has to be done at home, as it is no longer destiny, but relates to the individual's care of the self. Saukko et al. (2012) argue for the close relationship between pharmaceuticalisation and diagnosis. These authors point out the contradiction between the public health agenda, which endorses the benefits of behaviour change, and precise biochemical targets, which often can be achieved only with drugs. This is the case with elevated cholesterol. For the prediabetics in the present study, the threat of medicine was used therapeutically. As one GP explained: "You can tell the patient that it might be necessary to add on some medication. This enhances patient's motivation (...) compared to diabetes patients who come to us to get treatment, you can say to the prediabetic: YOU can do something about this".

However, comorbidity, defined as the occurrence of one or more chronic conditions in the same person with a disease, occurs frequently among patients with diabetes. Hannah is an example of this. She wants to avoid having to take diabetes medicine. However, like six of the other patients, while on the one hand arguing for lifestyle changes as a means for avoiding pills, Hannah takes statins for her

elevated cholesterol: “I want to avoid having to take medications. I have a friend who also has diabetes but she’s skinny and I always tell her that I have the advantage to lose weight and avoid pills. She cannot do that because she is skinny. Another friend of mine also doesn’t have to take pills because he does exactly like I do”.

Peter, 57 years old and working as a teacher at a technical college, justifies these observations:

I do the opposite as my parents – they eat pills and continue the same lifestyle (...). My father is in a pretty bad shape. He has COL [chronic obstructive lung disease] but continues to smoke and they continue to eat enormously fat food and they don't care at all. I want to go in another direction (...) I belong to the group of people who are never sick. I have not eaten medication since I was 22 and suffered a lot from cataract.

Peter constructs his causal accounts by synthesising history, epidemiology and attitudes. In line with the arguments of Canguilhem, it could be said that, during transition from health to disease, Peter’s organism is not dragged by the disease passively, but chooses its most appropriate norm under the given circumstances. When Peter concludes that he belongs to a group that is never sick, this is due to the fact that: “... being healthy and being normal are not altogether equivalent since the pathological is one kind of normal”(Canguilhem, 1991: 196). Peter does not feel pathos; rather, the pathos in his life is based on a social norm from a threshold of a blood sample.

In contemporary biopolitics, a perception has taken shape of the burden of lifestyle-related diseases, which “... makes abnormality into a new kind of norm, and requires a continual work of the self on the self in order to manage that constant lure by the will, by lifestyle, by drugs, in order to achieve an ideal form of life – which is the life of the autonomous self” (Rose, 2009: 18). The increase in prediabetes prevention activity like that in which these patients have participated is premised on the belief that it is possible to reduce risk factors and achieve health improvements. The involved labelling via diagnosis is a mark of authenticity, thus triggering the involved to become enthusiastic about addressing the risk. It therefore seems difficult to maintain the distinction between the vital norms of the body and the disciplinary norms of society. One reason for this is that vital norms, such as height, weight and the risk of developing diabetes are more historically and socially variable than Canguilhem suggests. According to contemporary epidemiology, diabetes is caused by overlapping risk factors, of which the most prominent include overweight/obesity due to high fat/sugar diet, low levels of physical activity, and increasing age. However, genetic background, maternal weight, and socioeconomic status are also considered important. Thus, the aetiology of diabetes amounts to a black box in which race, gender and socioeconomic

status are routinely incorporated, while the interior workings of the black box (i.e. how inequalities in health are produced) remain unexamined (Shim, 2002).

Nonetheless, for the patients in this study, identity practice in terms of biology did not lead to passivity. On the contrary, their narratives included how they had assessed their risk. This part of the study is reported elsewhere; the main findings are as follows. For the individual-level variable 'taking control', some prediabetics experienced that this by no means was a guarantee of lowering their risk. Living with a symptomless disease, they actively interpreted and negotiated the knowledge claims to make sense of how to behave in everyday life. According to Canguilhem, only the pathological draws our attention, and through disease we appreciate the normal. Nevertheless, the pathological is defined as a deviation from normal. What is, then, normal and when does a deviation from it become pathological? The ease with which the 'inexplicable' could be tolerated differed among the prediabetics. Some were disappointed that their behavioural changes had not made a greater impact on their blood glucose level. Others acknowledged that they had made few changes and yet had good results. Causal certainty is clearly of great importance and has the impact that the prevention messages are regarded by some of the prediabetics as invalid due to ambiguities:

My GP told me that my numbers are too high and this doesn't correspond to what I Googled. There are some interpretations (...) the darn cholesterol has been lowered from 4.5 to 3 two years ago and then suddenly my cholesterol was too high. So I think about the seriousness of things – are they just ideas or do they have evidence for what they think or what? I once read about a doctor who had cholesterol on 6 and he had no intentions of doing something about that.

As illustrated, Peter shows his doubts about the reliability of test results. Searching for explanations or a sense of direction in dealing with his high blood glucose, he perceived that although he had made a good effort, he had poor results. He questions whether the prediabetic category he has been placed into offers him any advantage over risk prediction. Canguilhem's contention is that the 'decision' of the organism on what norm to adopt can be considered a normative activity and a healing force of nature. Canguilhem adds: "It is life itself and not medical judgment which makes the biological normal a concept of value and not a concept of statistical reality" (1991: 131). However, the normative activity of the organism depends also on the environment: "Taken separately, the living being and his environment are not normal: it is their relationship that makes them such" (ibid: 143). In the case of Peter, prediabetes does not reduce his normative capacity, since his activities are not yet reduced. However, he is abnormal because of the social norm, and not because of his incapacity to be normative.

Marie was in a situation similar to Peter. She had recently moved with her husband and two teenage sons from one part of Denmark to another and had to change her GP. She explained how the new GP ordered a lot of blood tests and that the result was that her blood sugar level was considered too high, even though it had been at the same level as when she lived in another part of Denmark, point-

ing to the fact that the threshold is not standardised: “I really need a better explanation of this thing about what this is all about. She (the new GP) was talking about a threshold on 6.4 (...) and then she says that it has to get further down. It is not quite ok at the moment. So I figure what is this about? Are they pulling your leg”.

For Marie, socioeconomic norms translate into concrete effects in her life. The demand is autonomy over the vital elements of her body in the name of what she might become: normal. Being healthy means being not only normal in a given situation but also normative in this and other eventual situations. What characterises health is the possibility of transcending the norm. However, although she strives for capacity of control and a subsequent state of being healthy, she does not have autonomy over the threshold levels; thus, the failure to correspond to this ideal generates anxiety and suspicion.

Discussion

Screening patients at high risk for a lifestyle-related disease and then placing them in preventive intervention forms a growing part of Western health policy. These interventions are often designed and promoted as practices that promise to restore control (Hindhede & Aagaard-Hansen, 2014). For both the health professional and for the patient, this type of screening for high risk and subsequent diagnosis affects the tension between unawareness and awareness regarding risk of full-blown disease outbreak.

Scientific objectivity reduces the authority of the prediabetes diagnosis (Hindhede & Aagaard-Hansen, 2014). However, due to the fact that the thresholds, and therefore the definition, of a diagnosis like prediabetes are based on a cutoff of a continuous measure, there are blurry frontiers between risk factors for prediabetes and the disease itself. Presentation of numerical values is therefore not a neutral and simple transfer of information. Rather, there will always be an interpretation and value-based estimation attached to the risk communication. The implication is that the definition of prediabetes changes through various clinical and diagnostic practices (the general practitioner clinic, the laboratory, the country). This definition can be considered the outcome of controversies and disputes over ‘truth’ that involve deployment of arguments, prestige, cultural intelligibility, and practicability. The decontextualisation of the patient from his or her life circumstances is produced by the prediabetes category through the adoption of a biomedical voice that points to factors held to be of a different nature. Medical categories thus place a lifestyle disease like diabetes outside political and ideological considerations. Like this, transformations in health and welfare policies influence (by validating and invalidating) health behavior, thereby producing social distinctions that appear as outcomes of individually chosen lifestyles.

In the case of prediabetes, elevated blood glucose is the surrogate marker and the theoretical link with the disease one is trying to prevent. The risk of type 2 diabetes associated with overweight and not taking physical exercise is a way to

place lifestyle at the centre of prediabetes causation. Importantly though, the organisation of societies affects consumption and physical activity patterns. Non-control mechanisms are largely ignored in the publicity activities of the prevention movement. Moreover, a substantial proportion of diabetes arises in individuals not identified as being at risk (Simmons et al., 2010). Moreover, as argued by Moynihan and colleagues (2002), also pharmaceutical companies are actively involved in sponsoring the definition of diseases and promoting them to both prescribers and consumers. Thus, widening the boundaries of treatable illness like elevated cholesterol and prediabetes expands markets for producers of pharmaceutical products.

This paper investigates the possibility of relating Canguilhem's understanding of vitalism to transformations in forms of scientific thought, that is interventions aimed at preventing lifestyle-related diseases. I argue that his concept of life and its vital dynamic is fruitful for understanding the present interconnection of vital and social norms. Governmental, quasi-governmental and non-governmental agencies are increasingly involved in drawing on epidemiological knowledge and the identification of risk factors to create fertile ground for the occurrence of so-called lifestyle diseases. This tendentious abstraction from the individual and existential level is probably a significant part of the explanation for why prevention campaigns in general have had so little practical efficacy. It is also the key to understanding why the preventive framework has gained legitimacy compared to health promotion in general. In line with neoliberal modernisation of the public sector, this can be regarded as an effort to delegate more responsibility for health care and disease prevention to the individual and to involve families, communities and workplaces. This transformation involves the idea that health care must go the way of the individual's self-relation (Ljungdalh, 2012). In other words, the transformation mobilises and utilises the individual's self-care in public health policy. As a result, the individual has become dependent on a new form of health education, in which it is no longer just a question of raising awareness and informing, but also to guiding and animating the individual to take responsibility for (un)healthy lifestyles, to improve the collective health of the public. This represents a shift which implies a move from information to guidance, from leadership to 'conduct of conduct' (Foucault, 1991), from education and training to tutelage of individuals' responsibility for their lifelong learning and skills development (also in health pedagogy, which concerns the development of coping skills). Thus, lifestyle-related diseases can be determined as a breach of the individual's health responsibilities.

The individuals classified (in this case, prediabetics) are expected to train and continuously re-educate themselves to respond flexibly (Martin, 1994: 201) by engaging in a lifetime of training their bodies through diet, exercise and other healthy practices. They have to respond flexibly to new circumstances in an environment described as obesogenic, defined as: "the sum of influences that the surroundings, opportunities, or conditions of life have on promoting obesity in

individuals or populations” (Lake & Townshend, 2006: 262). As stated in Martin (1994), in most Western societies, education and training are almost always part of processes of social differentiation (e.g. who goes to what schools, for how long, and with what result). Thus, education and training of the body produces social differentiation. This means that people who have the resources to be superbly trained and continuously re-educated to respond flexibly to any new circumstances in the environment cannot stop being normative or they will “fall off the “tightrope” of life and die” (1994: 248). People at a high risk of developing diabetes handle their supposed risk factors which are considered themselves a condition; a ‘lifestyle disease’. For them, action is tied to a vision of lowering risk and bettering chances in life, and hope is fuelled by lifestyle changes’ potential as a means to avoid full-blown diabetes.

To sum up, the case of prediabetes helps to demonstrate how we are dealing with a transformation in the normative character of life and health in terms of a so-called new political economy of vitality (Rabinow & Rose, 2006). Thus, as shown in this paper, the concept of biopolitics is still valuable and relevant today “in focusing our attention to three key elements that are at stake in any transformation – knowledge of vital life processes, power relations that take humans as living beings as their object, and the modes of subjectifications through which subjects work on themselves qua living beings – as well as their multiple combinations” (Rabinow & Rose, 2006: 215).

Anette L. Hindhede, lektor, Institut for L ring og Filosofi, alh@learning.aau.dk

References

- Armstrong, D. (1995). The rise of surveillance medicine. *Sociology of Health & Illness*, 17(3), 393-404.
- Borch-Johnsen, K., & Colagiuri, S. (2009). Diagnosing diabetes – Time for a change? *Diabetologia*, 52(11), 2247-2250.
- Canguilhem, G. (1991). *The normal and the pathological*. New York: Zone Books.
- Cohen, R. M., Haggerty, S., & Herman, W. H. (2010). HbA1c for the diagnosis of diabetes and prediabetes: Is it time for a mid-course correction? *Journal of Clinical Endocrinology & Metabolism*, 95, 5203–5206.
- Davison, C., Frankel, S., & Smith, G. D. (1992). The limits of lifestyle: Re-assessing fatalism in the popular culture of illness prevention. *Social Science & Medicine*, 34(6), 675-685.
- Davison, C., Smith, G. D., & Frankel, S. (1991). Lay epidemiology and the prevention paradox: The implications of coronary candidacy for health education. *Sociology of Health & Illness*, 13(1), 1-19.

- The Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. (1997). Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. *Diabetes Care*, 20(7), 1183-1197.
- Foucault, M. (1991). Governmentality. In Burchell, G., Gordon, C. & Miller, P. (eds.), *The Foucault effect: Studies in governmentality* (pp. 87-104). London: University of Chicago Press.
- Foucault, M. (2007). *Security, territory, population: Lectures at the College de France 1977-78*. Basingstoke, UK: Palgrave Macmillan.
- Fraser, M., Kember, S., & Lury, C. (Eds.). (2006). *Inventive life: approaches to the new vitalism*. Sage.
- Garber, A., Handelsman, Y., Einhorn, D., Bergman, D., Bloomgarden, Z., Fonseca, V., . . . Nesto, R. (2008). Diagnosis and management of prediabetes in the continuum of hyperglycemia – When do the risks of diabetes begin? A consensus statement from the American College of Endocrinology and the American Association of Clinical Endocrinologists. *Endocrine Practice*, 14(7), 933-946.
- Gilchrist, V.J. & Williams, R.L. (1999). Key informant interviews. In *Doing qualitative research*, eds BF Crabtree & WL Miller, Sage Publications, London, pp. 71–88.
- Greco, M. (2009). On the art of life: A vitalist reading of medical humanities. *The Sociological Review*, 56(S2), 23-45.
- Green, J., & Tones, K. (2010). *Health promotion*. London: SAGE Publications Ltd.
- Herman, W. H., & Cohen, R. M. (2012). Racial and ethnic differences in the relationship between HbA1c and blood glucose: Implications for the diagnosis of diabetes. *Journal of Clinical Endocrinology & Metabolism*, 97(4), 1067-1072.
- Hindhede, A. L. (2014). Prediabetic categorisation: The making of a new person. *Health, Risk & Society*, 16(7-8), 600-614.
- Hindhede, A. L., & Aagaard-Hansen, J. (2014). Risk, the prediabetes diagnosis and preventive strategies: Critical insights from a qualitative study. *Critical Public Health*, 1-13.
- Hutson, D.J. (2011), Introduction: Looking within from without, in PJ McGann, David J. Hutson (ed.) *Sociology of Diagnosis (Advances in Medical Sociology, Volume 12)* Emerald Group Publishing Limited, xxix - xxxvii
- Jutel, A. (2011). *Putting a name to it*. Baltimore, MD: The John Hopkins University Press.
- Jutel, A., & Nettleton, S. (2011). Towards a sociology of diagnosis: reflections and opportunities. *Social science & medicine*, 73(6), 793-800.
- Lake, A., & Townshend, T. (2006). Obesogenic environments: Exploring the built and food environments. *Journal of the Royal Society for the Promotion of Health*, 126(6), 262-7.
- Ljungdahl, A. K. (2013). Normoverskridelse og livet i organernes stilhed – georges canguilhem mellem filosofi, sociologi og medicin. *Praktiske Grunde. Tidsskrift for Kultur-Og Samfundsvidenskab*, (1-2), 16-32.

- Mann, D. M. (2010). Impact of A1C screening criterion on the diagnosis of pre-diabetes among U.S. adults. *Diabetes Care*, 33(10), 2190-5.
- Marshall, M. N. (1996). Sampling for qualitative research. *Family Practice*, 13(6), 522-526.
- Martin, E. (1994). *Flexible bodies*. Boston: Beacon Press.
- McGregor, S. (2001). Neoliberalism and health care. *International Journal of Consumer Studies*, 25(2), 82-89.
- McKinlay, J. & Marceau, L. (2000). US public health and the 21st century: diabetes mellitus. *Lancet*, vol. 356, no. 9231, 757-761.
- Moynihan, R., Heath, I., Henry, D., & Gotzsche, P. C. (2002). Selling sickness: The pharmaceutical industry and disease mongering/Commentary. *British medical journal*, 324(7342), 886.
- National Diabetes Data Group. (1979). Classification and diagnosis of diabetes mellitus and other categories of glucose intolerance. *Diabetes*, 28(12), 1039-1057.
- Novas, C., & Rose, N. (2000). Genetic risk and the birth of the somatic individual. *Economy and Society; Economy and Society*, 29(4), 485-513.
- Porter, T. M. (1995). *Trust in numbers*. Princeton, NJ: Princeton University Press.
- Rabinow, P., & Rose, N. (2006). Biopower today. *BioSocieties*, 1(2), 195-217.
- Rose, N. (1998). *Inventing our selves*. Cambridge: Cambridge University Press.
- Rose, N. (2001). Biopolitics in the twenty first century—Notes for a research agenda. *Distinktion*, 2(3), 25-44.
- Rose, N. (2007). *The politics of life itself*. Princeton, NJ: Princeton University Press.
- Rose, N. (2009). Normality and pathology in a biomedical age. *The Sociological Review*, 57, 66-83.
- Sabanayagam, C., Liew, G., Tai, E., Shankar, A., Lim, S., Subramaniam, T., & Wong, T. (2009). Relationship between glycosylated haemoglobin and microvascular complications: Is there a natural cut-off point for the diagnosis of diabetes? *Diabetologia*, 52(7), 1279-1289.
- Saukko, P. M., Farrimond, H., Evans, P. H., & Qureshi, N. (2012). Beyond beliefs: Risk assessment technologies shaping patients' experiences of heart disease prevention. *Sociology of Health & Illness*, 34(4), 560-575.
- Shim, J. K. (2002). Understanding the routinised inclusion of race, socioeconomic status and sex in epidemiology: The utility of concepts from technoscience studies. *Sociology of Health & Illness*, 24(2), 129-150.

