

## Perspectives

# Critical health literacy in pandemics: the special case of COVID-19

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## Summary

In the current COVID-19 pandemic the active participation of the public is of central importance, however, certain factors found in this new pandemic disease complicates the participation. Addressing these complications needs public health and health promotion experts to understand the role of critical health literacy in a pandemic. We present the case for a definition of critical health literacy in a pandemic, CHL-P. We suggest that CHL-P can help professionals to support individuals and communities as agents for effectively dealing with the unique features of this pandemic.

**Key words:** uncertainty of knowledge, complexity of decision making, urgency of action, citizen participation

## BACKGROUND

In the absence of effective pharmacological interventions to control the pandemic, it has been necessary to depend almost entirely on public health measures. Consequently, the current COVID-19 crisis is characterized by the central role of individuals' cooperation and agency; basic guidelines of hygiene, physical distancing and wearing masks need to be followed, however, the application of these guidelines, their adaptations in the different living and working contexts, requires individual and collective decision making and agency. On the individual level, there are numerous challenges ranging from critically assessing information to taking a value stand on self- and collective responsibility. Individuals have to weigh the pros and cons of following the prescribed COVID-19 behaviours in the face of uncertainty of scientific knowledge, often-inconsistent information and political failure. These conditions create considerable difficulties for individuals to engage in critical thinking and reflection.

In this infectious disease pandemic where a newly emergent virus, SARSCoV2 (WHO, 2019), not only challenges bio-medical research fields, particular characteristics create a situation most difficult for promoting and achieving behavioural change at the population level. Typically, with a new virus scientific understanding is in the early stages of research while at the same time early stage intervention measures are most urgently needed. Societal institutions, and in particular governments and government agencies responsible for public health, cannot wait for completed scientific findings, instead they have to act on a more limited stock of scientific knowledge, often hampered by uncertainty. Not only is the scientific basis uncertain, the effects and broad ranging consequences of political and economic actions taken are very complex and in large part unpredictable. Overall, the pandemic situation is characterized by a high degree of complexity. Still, given the urgency of the situation, public health and health promotion experts need to provide guidance in what

behavioural guidelines for the population are crucial (in this paper, we take the current state of the COVID-19 crisis, late 2020, as our starting point and focus our discussion on infectious disease pandemics. Key issues addressed here (such as extreme urgency of interventions) make infectious disease pandemics particular; however, many other characteristics like complexity of interventions may also apply to other pandemics such as the so-called obesity pandemic).

Under such conditions, professionals also have to understand that in an acute pandemic traditional health education approaches and behavioural rules may not be equally suited for those in varied social positions in the community. In addition, the likely information overload that may contain misleading or overwhelming information causes demand for critical assessment because careful selection and analysis of information sources and reflection skills are needed. The concept of critical health literacy has been suggested to address pertinent issues around finding trustworthy health information, understanding and using it (Nutbeam, 2000). Mostly, it has been applied in health promotion research and NCD prevention.

In the case of a newly emerging pandemic, the situation is typically characterized by urgency of actions yet, challenged by uncertain scientific knowledge and a high degree of complexity at all levels of action. Those features of a pandemic are major factors determining the situation in which individuals have to make their decisions. For instance, individuals are challenged to select and assess the value of sources related to COVID-19 (Okan *et al.*, 2020) and to understand the importance of collective action and shared responsibility (Abel and McQueen, 2020). However, in conditions of information overflow, combined with political propaganda, uncertainty in what measures are most appropriate to take appears as a challenge. In addition, the possibility of unavoidable ambivalence in terms of personal freedoms versus collective health arises. Thus, critical health literacy is not just about careful selection and use of information available, but is to a large degree about individuals being able to reflect on the conditions and consequences of their actions in a public health emergency that vastly affects not only them and their families but also the society as a whole. Our observations and reflections on the current pandemic aim to provide a point of reference for systematic development of a health promotion concept of critical health literacy that can inform future public health theory and action on this pandemic as well as future such pandemics (we focus on issues to be considered by public health and health promotion experts when working with a health

literacy concept. A different approach has been taken by others whose work focuses on what individuals should know and do in the current pandemic [e.g. (Okan *et al.*, 2020)]).

## CURRENT CHL DEFINITIONS LEADING TO CHL-P

The terms and basic ideas of CHL were early on stated in Donald Nutbeam's typology of functional, interactive and critical HL. Starting from critical literacy as '...more advanced cognitive skills which, together with social skills, can be applied to critically analyse information, and to use this information to exert greater control over life events and situations.' (Nutbeam, 2000) he applied the basic idea more specifically to health issues. Until today this definition serves as a reference point for the concept of CHL and following were various efforts to advance the concept, mostly focussing on suggestions to include and/or elaborate on issues related to the Social Determinants of Health, empowerment, participation and political action (Abel, 2007; Chinn, 2011; Mogford, 2011). Reflecting on Nutbeam's definition of CHL and considering some of later efforts leads to some specific definitional issues that support the development of a concept of CHL-P.

Nutbeam referred to '... skills which investigate the political feasibility and organizational possibilities of various forms of action to address social, economic and environmental determinants of health'. In addition, he described CHL as '...linked to population benefit, alongside benefits to the individual'. Thus, links to pandemic conditions are quite apparent, as for instance the current COVID-19 crisis has made clear the need for the broad population to understand the challenges around political and organizational responses (Abel and McQueen, 2020). Moreover, the issues of individual and population benefit addressed in the basic definition of CHL can allude to pertinent challenges in a pandemic and lead us to consider questions on individual and collective responsibility for a definition of CHL-P.

Chinn and McCarthy stressed the '... willingness to assert personal control over healthcare decisions and a positive view about the possibilities of individual contribution to community health outcomes' [(Chinn and McCarthy, 2013), p. 252]. Those features refer again to issues of individual and collective responsibility; they also relate to individual agency whose features can be applied to the current COVID-19 challenges (see the section of theoretical considerations below).

Sykes *et al.* summarized the discussion of CHL at the time, confirming the critical appraisal of health

information as a key component of CHL and a standard in the various definitions. The authors advanced the concept and suggested to define CHL as to include ‘... a process in which citizens become aware of issues, participate in critical dialogue, and become involved in decision making for health’ [(Sykes *et al.*, 2013), p. 2]. While there were scant more publications on CHL, e.g. those addressing interventions to promote CHL, Sykes and Wills (Sykes and Wills, 2018) point out that little has been added since then in terms of the basic assumptions and the constituent elements of CHL.

The literature to date implies four major components of a definition of CHL: CHL (–) allows critically appraising information, (–) contributes to ‘awareness’ of issues, (–) facilitates ‘participation’ in communication and (–) encourages ‘involvement’ in decisions, all related to health. While these components are relevant for a focussed consideration of CHL in a pandemic, we see some limitations when it comes to a new and sufficiently focussed concept of CHL-P. (–) Individual empowerment is a central focus in the previous definitions but this focus is challenged in a pandemic situation when public health and health promotion experts need to convey to individuals to accept some severe restrictions in their daily lives. (–) Most current definitions still have a focus on cognitive skills when in a crisis situation like that of COVID-19 experts have to understand that at the population level value issues and emotional challenges are a key factor. (–) Implicitly, most definitions of critical health literacy appear to take for granted a solid stock of scientific knowledge available when in fact, in a new pandemic this is hardly the case.

## PUBLIC HEALTH CHALLENGES OF THE COVID-19 PANDEMIC THAT RELATE TO CHL-P

As of October 2020, though understanding of the disease and its control are improving, there remains scientific uncertainty on many characteristics of this pandemic, notably the mechanisms of spread and the best approaches to preventing its spread (Fisher *et al.*, 2020). Current prognosis is that the pandemic will continue for some time. This state of the art presents challenges to decide what prudent emphases should CHL-P assign that have a higher probability of being relevant for the time until COVID-19 is no longer a population threat. To date the variability of successful management of the pandemic has varied greatly. It is notable to see the documented efforts and assess how they have taken into account as science, social and political factors. For example, at the international level there has been wide variation in success dependent on the political leadership found in different nation states. There is also an observed gradient in success of recovery from COVID-19 related to measures of social inequity (Chowkwanyun and Reed, 2020; Laster Pirtle, 2020; Shah *et al.*, 2020) (Box 1).

CHL-P should reflect on the more successful outcomes and the actions taken to obtain success. We want to emphasize those actions most important for application of CHL-P. These include urgency of action, understanding the complexity of the pandemic, recognizing the need for community action, taking actions based on advice from scientific experts and taking clear and decisive personal behaviours.

### Box 1 Public health history and pandemics

Pandemics have a special meaning in the history and scope of public health. In contrast to endemic infectious diseases, pandemics have an unstable and often difficult pattern of occurrence. In addition, they spread without regard to basic geopolitical boundaries (Garrett, 1994). The most notable previous pandemic of influenza in 1918–19 spread throughout the world and was exacerbated by war, poverty and global population movement. In the early 21st century, it is safe to assert that these underlying conditions are far different from that time particularly global movement of populations. An important characteristic of a pandemic is that when it occurs the current state of clinical medicine has limited ability to treat the disease and the infection runs its course unless mitigated by non-clinical factors (Anderson and Nokes, 2005). Essentially, a public health approach is the only effective way to diminish the initial impact and course of a pandemic until a time of effective medical treatment and/or a vaccine is produced (CDC, 2018). Without any effective intervention, the infectious agent will continue its course until herd immunity is obtained. At that point, the disease generally reverts to an endemic phase where it will occur occasionally among people without immunity. In short, only public health measures can adequately control a pandemic.

The wide variation in how information about COVID-19 has been delivered to date, from institutional bodies [e.g. (WHO, 2020)] to national political leaders to leading public health experts, presents a particular challenge to any concept of CHL-P because of the variation in message deliverers. What is missing is a solid analysis and careful consideration of the different contexts in which individuals receive the messages about actions to be taken with regard to the pandemic. What seems to be clear in all observations of these factors is that where the guidance of public health experts following the best scientific judgments is emphasized there are better outcomes.

CHL-P rests on a public health and health promotion base that is distinct from clinical medicine and medical care. It centres on health promotion, disease prevention, control and mitigation. A global infectious disease pandemic is one of the most critical concerns of public health, including its conceptual ideas and its institutional manifestation. However, CHL-P that relates to COVID-19, requires careful focus on those dimensions of public health that are most salient in dealing with a crisis that is current, threatening, global and difficult to manage and/or control, including recognition of the epidemiological dimensions of the pandemic, the need for long-term quarantine or lockdown, understanding of social and/or spatial distancing and assessing urgency and consistency of action.

The spread of a highly contagious virus such as COVID-19 reveals what people should do to reduce susceptibility. First, it is clear from a public health action perspective that time is of the essence. The disease acts in real time and in the special case of COVID-19 the disease may be spread by those who are asymptomatic making both traditional quarantine less useful and strengthening the idea that isolation, spatial distancing and masking may be appropriate even in a period of time where few or no cases are apparent. This approach arises in part because of the relatively problematic data available on how many cases, asymptomatic or actual, may be inaccurately appraised. Thus, the unknowns around the mechanisms of spread of COVID-19 make public health strategies very complicated and challenging. Nonetheless, timeliness of necessary action shows the need for urgency of action by all concerned. Adding to the complexity is the lack, in many cases, of consistent messages. CHL-P must engage with the issues of complexity and uncertainty that are not seen in well-established and understood diseases (CHL-P is not limited to the acute and early phases of the pandemic. A pandemic may be long lived and change over time. As the pandemic enters later stages, issues related to degree

of mitigation, development of herd immunity, better understanding of the communicability and, of course, the use of medicines and vaccines will continue to be important (Anderson and Nokes, 2005). Many of the ideological challenges raised by individuals to wearing masks or those arising with challenges to vaccination will call for CHL-P).

## SOME THEORETICAL CONSIDERATIONS FOR CHL IN A PANDEMIC

Obviously, the urgency for professionals to act and promote appropriate behavioural changes in the populations is extremely high in the case of a pandemic. Some experts may be wary/sceptical about theoretical approaches at this time. Nonetheless, some theoretical guidance helps to clarify the basic challenges to be considered in comprehensive interventions. The idea that 'good public information' alone is sufficient to get the population 'on board' overlooks the reality that the behavioural change challenges in this crisis are complex and the theoretical grounds on which to develop the best interventions are often lacking.

We place the concept of CHL-P in the sociological perspective of individual and collective agency (Giddens, 1991; Hewson, 2010), emphasizing that individuals even in situations where strong political regulation is called for are not to be reduced to objects but, understood and addressed as subjects making decisions for themselves and others. Individuals are agents whose behaviours either reproduce or can change structural conditions (Abel and Frohlich, 2012). Most obviously, individuals are agents of changes in their own lifestyles and in case of collective agency; their behaviour has major implications on the structural level as well (Sykes and Wills, 2018). Our assertion is that a theoretical perspective of agency can guide public health and health promotion experts to address the full potential of collaborative efforts at all level and thus, to push back on trends towards fatalism and paternalism. We argue here that the concept of CHL-P can account for supporting this form of individual and collective agency as a key element in pandemic crises (there are many forms of agency in the current crisis, among them activities of lobby groups, e.g. for re-opening certain segments of the market (e.g. tourism) after lock down. In this paper, we focus on individuals' and collective agency that is linked to CHL-P).

In the COVID-19 crisis urgency of actions, complexity of decisions and uncertainty in the knowledge base make behavioural action difficult. CHL-P is an attempt to address these challenges while at the same time,

avoiding paternalist views. CHL-P instead addresses individuals as agents, citizens and partners in a collaborative effort to mitigate the consequences of the current crisis. To understand the potential role of CHL-P, public health and health promotion experts should account for individual agency and the structural condition of individuals' decision-making and action.

Most population-based measures to reduce the spread of the COVID-19 virus include an appeal to an individual's sense of community and collective responsibility. At the same time, most measures leave some leeway for personal decisions: submitting to curfew rules, following properly the rules of hygiene, wearing masks and keeping the recommended spatial distance are individual choices. Such choices will depend, in part, on how much they are based on scientific evidence (properly communicated) and who delivers the message (trusting the messengers). In any case, the current crisis has clearly shown that individuals need to critically assess incomplete evidentiary suggestions (especially when issued by governments with political motivations superseding scientific understanding), thus the decision not to follow 'poor' recommendations belongs to individual agency. These behaviours affect an individual's risk as well as the community COVID-19 risks. In the form of collective (risk) behaviours they show profound structural effects as was apparent for instance, in the shortage of ICUs in many (not all) countries. 'Flattening the

curve' or mitigation was a striking example of how much the structural functioning of the health care systems depended on individuals' decision to follow or not follow certain advice. One might expect that with the consecutive lifting of structural measures the leverage of individual decision making and thus agency factors are likely to gain in relative importance.

While some parts of the public focussed on notions such as 'loss of individual freedom' due in part to drastic political interventions, this should not be confused with loss of agency. In fact, following the guidelines meant exercising agency: by accepting the given risks and the collective responsibility as a citizen, individuals rendered their agency strengthening the structural measures (our assumption is that many individuals who apply COVID-19 pandemic guidelines, based on a sense of community, decide that their personal behaviour contributes to the protection of vital societal functions. This sense of the commons varies in different societies and subpopulations across the globe. It remains a task for social science research to study the links of sense of the commons and agency in pandemic crises). Staying home and mitigating the spread of the virus helped in supporting vulnerable people in the neighbourhood (often with the help of municipalities) and created and strengthened structural forces (Van den Brouke, 2020). These phenomena suggest considering CHL-P as part of 'constructive agency' at the population level in pandemic situations (Box 2)

### Box 2 Structural conditions of agency in a pandemic

'...it is too easy to focus on people making bad choices rather than on people having bad choices. People should practice humility regarding the former and voice outrage about the latter'. (Marcus, 2020)

It was 'discovered' rather late in the COVID-19 crisis that this public health crisis is socially stratified, that although it affects all strata in our societies, the impact was and still is very different according to social class, race, ethnicity (Berkowitz *et al.*, 2020; Mesa Vieira *et al.*, 2020). When appealing to 'the population' today it needs to be understood that individuals' decisions and actions in response to COVID-19 are based on their position in the social structure, on the knowledge they were provided with, their job conditions and on the material and non-material resources available to them. Housing conditions (e.g. social housing) often make spatial distancing extremely difficult. Buying masks, even in affluent countries as Switzerland, has become an issue for low-income families who may have to compromise on other necessary expenditures to afford the appropriate use of masks (SKOS, 2020). Given the enormous social inequality issues in the current pandemic (Berkowitz *et al.*, 2020; Takian *et al.*, 2020) CHL-P needs to be discussed also as part of the social reproduction of health inequalities in pandemics. Here again an agency perspective that accounts for the given structural constraints can be helpful (Abel and Frohlich, 2012; Sykes and Wills, 2018). In line with this perspective, CHL as part of people's agency has been found a key factor to explain structural, here urban–rural variations in successful coping with the COVID-19 crisis (Chen and Chen, 2020). And, we like to add here that the 'humility' referred to by Julia Marcus above is or at least could be part of improved CHL-P.

(notably other forms of patterned behaviours that might be called ‘destructive agency’, undermining public health efforts through pro-actively contributing to misinformation, distributing conspiracy theories and intentionally or unintentionally weakening the structural measures exist. A concept of ‘destructive agency’ in a pandemic may sound provocative and awaits further development in future research).

## TOWARDS A DEFINITION OF CRITICAL HEALTH LITERACY IN A PANDEMIC, CHL-P

Our design of CHL-P is based on the observation that in special public health emergencies there arise unique challenges for both professionals and individuals. In the case of the COVID-19 pandemic profound challenges are related to the uncertainty of current knowledge, with the inherent complexity of issues and the attempts to misuse the crisis for political interests. Therefore, CHL-P should include an increased awareness by the population of the pitfalls of information [e.g. social media echo chambers (Haque, 2010) and various forms of propaganda], skills to critically assess the information available, understanding and balancing individual and collective consequences of their behaviours and responsibilities and the skill to work with the best public health advice while accepting the uncertainties in scientific knowledge. In the current COVID-19 crisis, these individual competences underlay CHL-P. At the collective level CHL-P can function as a major resource for societies in the mitigation of the pandemic.

Public health and health promotion experts should understand the relevance of these components of CHL-P for and in the populations they work with and consequently aim at approaches that facilitate and draw on these competences. To support individuals as active citizens, health promoters should rely on guidance from a perspective of individual and collective agency. In addition, there is the need to understand and consider that the chances and opportunities to acquire and apply CHL-P are unequally distributed across social classes.

The contextual conditions generic to a pandemic like the current COVID-19 crisis are marked by three challenges: the urgency of action at all levels (individual and community action), complexity (requiring a basic understanding of the reasons and consequences of public health measures) and acceptance of the changes of what is scientifically known as knowledge develops over time. Within these conditions, individuals need to decide and act and we propose that CHL-P is needed to guide and support their actions.

The concept of CHL-P is population based; it addresses individuals as citizens and agents in their specific living conditions. We do not see CHL-P as a new form of classifying individuals into groups with ‘sufficient’ or ‘insufficient’ health literacy. Instead, we understand CHL-P as a resource warranted in a pandemic crisis but unequally distributed based on well-established forms of social inequalities (the possibility should be explored that CHL-P is not only an expression of social inequity but might play an active role in the social reproduction of health inequalities in a pandemic [on the potential risk of health literacy approaches increasing health inequalities (Abel, 2008; Paakari and George, 2018)]).

With this, we define that CHL-P:

- comprises the competences needed in a pandemic to understand and effectively respond to the urgency of action on all levels, the complexity involved in the causes and consequences, and the changes in the scientific basis over time;
- supports individuals in the development of their ability to critically assess and reflect on the contextual conditions needed to carry out appropriate actions;
- strengthens individual and collective agency in communities and contributes to more comprehensive societal responses to this pandemic and those occurring in the future.

## DISCUSSION

The notion of critical health literacy was introduced as a generic concept in health promotion through which the social, economic and political determinants of health could be linked to an individual’s advanced skills to critically analyse and use health information (Nutbeam, 2000; Abel 2008). We have taken a topic specific approach to a current public health crisis by focussing on those elements that warrant a better understanding namely, the competences needed for the population to become a positive driving force in reducing the spread and mitigating the consequences of the pandemic. Referring to the major challenges in the current COVID-19 crisis, we developed a definition of critical health literacy in a pandemic. Our definition includes links to the current generic definitions of CHL such as the competences to assess the trustworthiness of sources or an increased awareness among individuals and the populations at large (Sykes and Wills, 2018). Without explicitly referring to the concept of critical health literacy, experts have recently listed a number of health literacy issues that apply in the COVID-19 crisis (Okan



*et al.*, 2020; Van den Broucke, 2020). The list includes items such as ‘encouraging people to cross check the accuracy and credibility of information, to check the source of information (where does it come from, who is behind the information, what is the intention, why was it shared, when was it published), to verify the information by consulting a second source, to consult family members and trusted health professionals about information that is ‘doubtful’, and to think twice before sharing information that has not been fact-checked’. Those approaches are helpful in that they support the development of practical advice lists applicable in a pandemic crisis.

Our CHL-P concept differs from former health literacy concepts and critical health literacy approaches in several respects:

(–) Inherent to CHL-P is a focus on an acute situation and its consequences. The urgency of the acute health threat is a defining criterion of CHL-P. The urgent need is to critically assess COVID-19 related information and balance the pros and cons of decisions needed to stop spreading the virus.

(–) Understanding the relevance of CHL-P prepares public health and health promotion experts to consider and explicitly address the underlying challenges that individuals face when making their decisions. It draws attention to questions on personal and collective values, moral standards, sense of responsibility, sense of community and citizenship. CHL-P calls for including and strengthening individuals’ critical thinking and reflection during a pandemic.

(–) In pandemic situations, scientific knowledge may be limited, ‘evolving’ and often unstable. CHL-P accounts for and addresses the related uncertainties.

(–) Context is of central importance in the CHL-P approach. As an example, context may be seen as related to social class as well as other sociocultural factors. It acknowledges the need for contextualization of health messages and accounts for the fact that individuals are or need to become experts on how to adjust pandemic recommendation to their own individual living conditions. Context is also key for individuals to acquire and apply critical health literacy and achieve the behavioural changes needed. CHL-P urges health professionals to understand and account for context effects on all levels of intervention.

(–) CHL-P provides an attempt to anchor its approach in a social theory. By using theoretical guidance from a human agency perspective, the concept relates to bigger questions like those of ‘citizenship and health’ or the ‘reproduction of social health inequalities’ in a pandemic. Moreover, applying a structure-agency

perspective would allow the elaboration of the concept of CHL-P and at the same time re-connecting it to the original concept that saw CHL closely related to the social determinants of health (Sykes and Wills, 2018; Nutbeam and Lloyd, 2021).

Those features of CHL-P may be seen as conceptual advancements to date. This effort only is a beginning to develop the concept of CHL-P as a useful health promotion approach in a pandemic crisis. Much more work needs to be done to achieve the full potential of this approach. We list here some of the challenges for future research and practice on CHL-P.

(–) A sound theoretical basis needs to be developed for CHL-P. It can support the approach for instance, by defining the range of themes best addressed in a CHL-P approach. In our understanding and supported by a theoretical perspective of structure and agency the CHL-P approach can help addressing issues on governance (in particular the role of government agencies) and collective agency examining the conditions of appropriate behaviours at the population level. Moreover, social theory can and should guide the choice of appropriate empirical methods in future CHL-P research.

(–) Innovative empirical approaches are called for in the design of new measures assessing critical health literacy and its distribution among the different population groups (Abel, 2008). Empirical investigations on CHL-P (qualitative and quantitative) are needed for instance, to better understand how risk is assessed and interpreted and how that perception of risk is translated into agency, individual and collective.

(–) Context-specific interventions are necessary for a systematic application of CHL-P approach in health promotion. CHL-P requires individual skills of critical thinking and reflection and future studies should provide answers on how and where these generic competences can best be promoted school settings being a case in point (Paakkari and Paakkari, 2012).

## SUMMARY AND CONCLUSION

Urgency of measures, complexity of actions and uncertainty of scientific knowledge characterize the COVID-19 pandemic. At the same time, the success of any measure depends strongly on the active participation of the public. Indeed, we argue that there is a need and a significant potential for individual and collective agency in this crisis but that factors including poor policies, information overflow, media failure and propaganda have obstructed public health measures. Moreover, almost all pandemic recommendations need adjustment to the particular social class-based conditions requiring individual

competencies we call critical health literacy in a pandemic. Public health and health promotion experts should build on the concept of CHL-P to facilitate and strengthen the significant potential of individual and collective agency in mitigating the consequences of the current crisis and prepare for similar pandemics in the future. The concept awaits further theoretical and empirical advancements.

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