Outcomes of Snackable Literacy-Oriented Videos for Parents with Low Health Literacy: An Exploratory Qualitative Study

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In memory of Dr. Pierre Pluye. You found me when I was wandering and believed in me when I didn't believe in myself. To you, I will be forever grateful.

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ABSTRACT

Background: In Canada, 60% of people aged 16 years and older are characterized as having low health literacy (HL) which impacts health outcomes and overall health status. Children of parents with low HL experience more emergency visits, brush their teeth less frequently, and are more likely to eat less nutritious food. In an attempt to overcome literacy issues and combat the barriers to information access affecting individuals with low HL, it has been advised that healthcare providers tailor the literacy requirements of their recommendations to the literacy levels of their patients through the dissemination of health videos. This can mitigate the stigma of low HL, allowing patients to view the content on their own as they may feel embarrassed or reluctant to ask for further clarification when presented with new or complex information.

The literature on advancing HL highlights quantitative studies measuring particular interventions. Few have focused on evaluating or learning from interventions to make HL education accessible and aligned with peoples' everyday lives.

Setting: Naître et grandir (N&G) is a trusted resource in Quebec, Canada which provides accessible, evidence-based information on pregnancy, child development, education, and health, to parents of children aged 0-8 years. A novel product comprises one-minute long, or snackable videos, displaying informative text on a screen at a fixed rate without narration.

Objectives: The specific objectives of this study are to: (i) identify the strengths, limitations, and perceived individual outcomes of novel, literacy-oriented snackable videos from the perspective of parents with low HL, and (ii) evaluate the accessibility of N&G snackable videos

through the application of the principles of accessible information outlined in *Communiquer pour tous: Guide pour une information accessible.*

Methodology and Methods: A qualitative descriptive study was conducted. Through purposeful sampling, 18 participants were recruited from literacy-oriented community organizations in Quebec and were interviewed individually or in small groups, each watching 1 of 10 N&G snackable videos. Participants were parents of at least one child aged 10 years or younger who self-reported sociodemographic characteristics predicting low levels of HL, and shared their input on the perceived health outcomes of the viewed snackable video. A deductive-inductive qualitative thematic analysis was performed. Lastly, the usability and perceived advantages and disadvantages of N&G snackable videos were compared to webpages, audio-webpages, and traditional videos. Themes were derived from the Outcomes of Online Consumer Health Information conceptual framework and according to Communicating for all: A Guide to Accessible Information, as well as suggested by the data.

Results: Themes and subthemes related to the health outcomes of online health information (OHI) including the snackable video's situational relevance, cognitive impact, use of OHI and health and healthcare related outcomes were identified by participants. No outcomes related to the impact of OHI on health care services were identified, and no new outcomes emerged from the data. The relevance and comprehensiveness of included information, the length and comprehensibility of chosen words, the choice of colours, and the brevity of the sentences are aligned with N&G's mission to provide accessible health information. Participants further

expressed that the poor application of the principles of accessibility regarding speed compromised understanding.

Conclusion: Participants identified health outcomes of OHI for N&G snackable videos. Participants further recommended changes to the video's format and content which will improve accessibility, and thus health literacy education. This will help combat disparities in health outcomes and battle against the impact of misinformation.

RÉSUMÉ

Contexte: Au Canada, 60 % des personnes âgées de 16 ans et plus ont un faible niveau de littératie en santé, ce qui a un impact sur la santé. Les enfants de parents ayant un faible niveau de littératie en santé sont plus souvent aux urgences, se brossent moins souvent les dents et sont plus susceptibles de manger des aliments moins nutritifs. Afin de surmonter les problèmes d'alphabétisation et d'accessibilité, il a été conseillé aux professionnels de la santé d'adapter les exigences de leurs recommandations aux niveaux d'alphabétisation de leurs patients en diffusant des vidéos. Cela peut atténuer la stigmatisation, en permettant aux patients de visionner le contenu eux-mêmes, car ils peuvent se sentir gênés ou réticents à demander des éclaircissements lorsqu'on leur présente des informations nouvelles ou complexes.

Les données probantes sur la littératie en santé mettent en évidence des études quantitatives mesurant certaines interventions. On retrouve peu d'études sur l'évaluation ou l'apprentissage des interventions visant à rendre l'enseignement de la littératie en santé accessible et adapté à la vie quotidienne.

Cadre: Naître et grandir (N&G) est une ressource fiable au Québec, qui fournit aux parents d'enfants (0 à 8 ans) des informations accessibles et fondées sur des preuves concernant la grossesse, le développement, l'éducation et la santé. N&G ont aussi la vidéo “collation,” une vidéo d’une minute qui affiche un texte informatif sur l’écran à un rythme fixe, sans narration.

Objectifs: (i) identifier les points forts, les limites et les résultats individuels perçus des nouvelles vidéos collation axées sur l'alphabétisation du point de vue des parents ayant un faible niveau de littératie en santé, et (ii) évaluer l'accessibilité des vidéos collation de N&G en

appliquant les principes de l'information accessible décrits dans *Communiquer pour tous: Guide pour une information accessible.*

Méthodologie: Une étude qualitative interprétative a été menée. Grâce à un échantillonnage raisonné, 18 parents avec au moins 1 enfant âgé de 0-10 ans, avec des caractéristiques prédisant de faibles niveaux de littératie en santé, ont été recrutés au sein d'organisations communautaires axées sur l'alphabétisation au Québec. Ils ont participé à des entrevues individuelles ou en petit groupe, chacun regardant une vidéo collation. Les participants ont fait part de leurs commentaires sur les résultats perçus en matière de santé de la vidéo. Une analyse thématique qualitative déductive-inductive a été réalisée. La facilité d'utilisation et les avantages et inconvénients perçus des vidéos collation de N&G ont été comparés à ceux des pages web, des pages web audio et des vidéos traditionnelles. Les thèmes ont été tirés du cadre conceptuel pour les informations en ligne sur la santé pour les consommateurs, et du document *Communiquer pour tous: Guide pour une information accessibl*e, et suggérés par les données.

Résultats: Les participants ont identifié les thèmes et les sous-thèmes liés aux effets sur la santé des informations de l'internet-santé (IIS), notamment la pertinence situationnelle, l'impact cognitif, l'utilisation des IIS et les effets sur la santé et les soins. Aucun résultat lié à l'impact des IIS sur les services de santé n'a été identifié, et aucun nouveau thème n'est ressorti. La pertinence et l'exhaustivité des informations incluses, la longueur et la compréhensibilité des mots choisis, le choix des couleurs et la brièveté des phrases sont conformes à la mission de N&G. Les participants ont également exprimé que le principe d'accessibilité, notamment la vitesse, n'a pas été appliqué de manière adéquate pour faciliter la compréhension.

Conclusion: Les participants ont identifié les effets d'IIS et des recommandations pour modifier le format et le contenu de la vidéo afin d'améliorer l'accessibilité et, ainsi, la littératie en santé. Cela permettra de lutter contre les disparités en matière de santé et contre l'impact de la désinformation.

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When I first embarked upon this journey, I had no idea what was in store for me. I had just finished my undergraduate studies and was caught between two paths: one was clearly defined, and the finish line was in sight, but the other was a lifelong adventure with no stepwise guide and no visible finish line. I can now say that I am proud of myself for choosing the less obvious path, but I could not have gotten here without my people. I am still far from the end, but I am excited for what is to come.

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I would like to thank Dr. Tracie Barnett, my co-supervisor, for being a shoulder to lean on. She never let me waver, even in times where I thought we may have both been a little bit lost. She has taught me so much about the importance of being willing to learn with and from others. Her perseverance is inspirational, and I am so glad to be going on a new journey with her.

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Contribution of Authors

Raphaela Nikolopoulos, as the MSc student, was responsible for developing the research questions and objectives, as well as conducting participant interviews, data analysis and interpretation. She was also responsible for writing and editing all components of this traditional thesis, as well as presenting research findings at national and international conferences.

Dr. Pierre Pluye, as the MSc supervisor, was responsible for the co-development of the research questions and objectives, and provided expertise on qualitative methodology, online health information, health literacy and contributed valuable insights into the data collection and analysis process.

Dr. Tracie Barnett, as the co-supervisor, assisted in planning and oversaw the data collection, provided guidance on data interpretation, as well as thesis writing and editing.

Geneviève Doray, as the director of Naître et grandir and committee member, assisted in the conceptualization of the study objectives and co-designed the study.

Dr. Geneviève Roch, as a committee member with specific knowledge of qualitative methodologies and experience working with vulnerable populations, provided guidance throughout the data analysis, and provided mentorship throughout the duration of the study.

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HL: Health literacy

N&G: Naître et grandir

OECD: The Organisation for Economic Co-operation and Development

OHI: Online health information

PIAAC: Programme for the International Assessment of Adult Competencies

SES: Socioeconomic status

UNESCO: United Nations Educational, Scientific and Cultural Organization

PHAC: Public Health Agency of Canada

CHAPTER 1: INTRODUCTION

1.1 Definition of Health Literacy

Health Literacy (HL) is a multi-faceted concept first defined by the World Health Organization in 1998 as "[t]he cognitive and social skills which determine the motivation and ability of individuals to gain access to understand and use information in ways which promote and maintain good health" (Nutbeam, 1998). This definition has slowly evolved to consider the influence that social context has on HL. The operational definition of HL referenced henceforth is as follows: "Health literacy is linked to literacy and entails people's knowledge, motivation and competences to access, understand, appraise, and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course" (Sørensen et al., 2012). This is the chosen operational definition of HL for this study as its focus on equitable access to education, health, and healthcare implicates families and communities at large, governmental bodies, the media and other organizations, rather than the capacity and competences of the individual alone (Nutbeam & Muscat, 2021). This definition further recognizes that HL is not a fixed characteristic and is highly dependent on sociocultural and situational environments (Nutbeam & Muscat, 2021). Emphasizing this is paramount as the stigma surrounding low HL has impacts on interpersonal relationships, including the relationship between the patient and their healthcare provider, as well as their ability to navigate the intricacies of the healthcare system (Connelly & Turner, 2017; Schillinger, 2021).

1.2 Parental Health Literacy and Child Health and Performance

Parents and guardians are typically responsible for the care of their children. The impact of low parental HL on children begins during, or even before pregnancy (DeWalt & Hink, 2009). These parents are more likely to have poor knowledge of contraception and difficulty with proper use of contraception (Yee & Simon, 2014). Populations with low HL are more likely to have poor and limited understanding of conditions such as diabetes mellitus, smoking, inadequate prenatal care, and of the corresponding risks associated with preterm birth (Köck et al., 2010; Xaverius et al., 2016). Furthermore, parents with lower HL are also less likely to choose to exclusively breastfeed for the first two months compared to parents with adequate HL (Kaufman et al., 2001). Parents with low HL who choose to feed using infant formula encounter difficulties as the instructions for preparation, use and storage on formula packaging are written at the college level, and warning labels intended to keep children safe are written at the 8th or 9th grade level (Connelly & Turner, 2017; Wallace et al., 2016).

Difficulties understanding and applying health information results in lower adherence to a child's medication regimen, with only 7.3% of parents with low HL reporting compliance and 53% of children receiving less than half of the intended medication dose (Connelly & Turner, 2017; Fotheringham & Sawyer, 1995; Mattar et al., 1975). In addition, lower HL is associated with less knowledge of weight-based medication dosing for children and increased use of non-standard dosing measures, resulting in medication errors (Connelly & Turner, 2017). As a result, children of parents with low HL experience more frequent emergency visits, at times for non-urgent conditions, as well as more hospitalizations and a greater number of school absences (DeWalt et al., 2007; Morrison et al., 2014).

Children of parents with difficulties reading, writing and understanding are more likely to exhibit these same difficulties, while parents who foster learning, create a supportive environment and exhibit favourable attitudes towards academics will positively impact their children's learning capacity and performance (Rootman & Ronson, 2005). Further, children of parents with low HL aged 6-11 are more likely to eat less fruits and vegetables, and less likely to engage in physical activity, and to brush their teeth regularly (de Buhr & Tannen, 2020). In addition to eating fewer fruits and vegetables, children over 11 years old of parents with low HL also drink more sweetened beverages (de Buhr & Tannen, 2020).

1.3 Online Health Interventions and Low Health Literacy

In recent decades, there has been a massive shift in how people search for, locate, and use information. Previously, the majority of searches were primarily done using print-based mediums such as books, journals and newsletters; however, technology has given widespread access to learning tools other than printed media (Rootman & Ronson, 2005). Over time, searches have transitioned to virtual sources, more specifically, with most information being accessed via the internet, as some genres have become digital (Luzón & Pérez-Llantada, 2019). Since information can now be accessed digitally, the demand for online health information (OHI) has increased, now making the internet the consumer's primary source for health information for themselves and for their families (Pluye et al., 2019).

Online health interventions, such as those delivered via videos, can simplify a topic, expanding the reach of the information, as it can be tailored to multiple reading levels, and therefore different levels of HL (Conard, 2019). These interventions can be used by a greater proportion of the population as internet access is a resource which is available to most, with 95%

of Canadians aged 15 or older having internet access (Calvert et al., 2005; Conard, 2019; Government of Canada, 2023). However, the digital divide persists and is a human rights issue which exacerbates digital literacy disparities for communities which identify with proxy characteristics of low literacy and low HL, including racialized, rural, and low-income communities (Sanders & Scanlon, 2021). This impacts one's ability to access, and use technologies which we have become increasingly reliant on in all aspects of everyday life, including professional life, leisure activities, and health management (Sanders & Scanlon, 2021).

In an attempt to overcome literacy issues and combat the barriers to information access affecting approximately half of the Canadian adult population, and their children, it has been suggested that healthcare providers adapt the literacy requirements of their recommendations to the literacy levels of their patients (Morrison et al., 2019; OECD, 2013). This can be achieved through the dissemination of video instructions with an audio component and visual demonstrations (Morrison et al., 2019). Videos are a suitable means to disseminate health information as individuals with low levels of literacy tend to skip paragraphs longer than three lines (Lemieux, 2014). If clearly labeled, videos eliminate the need to scroll endlessly through webpages in search of reliable and easy-to-understand information (Lemieux, 2014).

1.4 Context: Naître et Grandir

Naître et Grandir (N&G) is a publisher based in Quebec, Canada which provides trustworthy, and evidence-based information, on various topics, focusing primarily on pregnancy as well as child development, education, and health (Naître et Grandir, 2021). They are funded by the Lucie and André Chagnon Foundation, a philanthropic organization whose mission is to prevent poverty by creating equitable and inclusive conditions which allow all families to play an active

role in society (Lucie and André Chagnon Foundation, 2023a). The content they provide is specifically oriented towards the questions and needs of pregnant people and parents of newborn children until the approximate age of eight years old (Naître et Grandir, 2021). This content is offered via magazine, which is published eight times per year, as well as a webpage and can be viewed using devices such as desktop and laptop computers, as well as tablets and smartphones. Annually, N&G receives over 62 million visits to their website and circulates over 270,000 free magazines to more than 4,700 locations across Quebec, including publicly funded daycares, community organizations, libraries, and other health and social service organizations (Lucie and André Chagnon Foundation, 2023b).

Figure 1. Naître et grandir Snackable Video

Content is also available to be consumed in an audio-webpage in which N&G users can opt for a computer program to transform written text into an audio format using text-to-speech technology. Two video formats can be found on the N&G website: a traditional video with audio and visual cues such as an actor providing a demonstration, and a "snackable video"

approximately one minute in duration, where informational text is displayed across a screen, appearing at a fixed rate, without a voiceover component. Most N&G resources are available in both English and French and are accessible as N&G is oriented towards an audience with low literacy levels (Naître et Grandir, 2021).

1.5 The Role of Family Medicine

The abilities and willingness of healthcare providers to effectively communicate with their patients plays a critical role in mitigating the impact of individual HL (Allaire & Ruel, 2017). At times, the information, oral or written, provided by healthcare providers cannot be used by patients because it is not adequately accessible due to the elevated literacy demands, and thus cannot be implemented into everyday practice (Allaire & Ruel, 2017). Although clinicians have the legal responsibility to provide clear and simple information using lay language, many do not do so for fear of being held liable for not providing complete and accurate information (McCray, 2005).

In order to create materials which can be viewed, understood, and used by a majority of the population, it has been proposed that these materials should be conceptualized using the proportionate universalism approach (Marmot & Bell, 2012). This prioritizes the most disadvantaged people in a given population and recommends adopting practices which target their specific needs as well as the factors that determine health outcomes. For instance, educational materials should target the 5th grade reading level, rather than requiring the literacy skills comparable to those of a high school or college graduate, and would therefore align with this approach. It is inclusive to both people with lower and higher levels of literacy as patients

with higher literacy proficiency also use and understand 5th grade material, while not perceiving it as too simple (Hosey et al., 1990).

1.6 Research Question and Objectives

The purpose of this thesis is to generate the knowledge needed to assist Naître et Grandir and other publishers in assessing and improving the impact of their videos among people with low HL. This will expand their platform's reach, helping to battle misinformation on the path to health equity. The question that guides this inquiry is as follows: What are the perceived outcomes of literacy-oriented Naître et grandir "snackable" videos from the perspective of parents of young children with a low level of health literacy?

In order to better inform our recommendations, the specific objectives of this study are to: (i) identify the strengths, limitations, and perceived individual outcomes of novel, literacy-oriented snackable videos from the perspective of parents with low health literacy, and (ii) evaluate the accessibility of N&G snackable videos through the application of the principles of accessible information outlined in *Communiquer pour tous: Guide pour une information accessible* (Ruel et al., 2018).

CHAPTER 2: REVIEW OF THE LITERATURE

This literature review focuses on outlining the relationship between literacy and health literacy, as well as the role of sociodemographic characteristics in relation to individual health outcomes and overall health status. This chapter further discusses how technology has fundamentally altered how people search for, share, and subsequently use information, including health information, and the impact this has on information needs, as well as how content formatting can promote health equity.

2.1 Prevalence of Low Literacy

Low literacy is a global issue with implications for adults and their children (Conard, 2019). Despite efforts by the United Nations Educational, Scientific and Cultural Organization (UNESCO) to launch and implement the Experimental World Literacy Programme in 1967 in an attempt to eradicate illiteracy, this human rights issue persists (UNESCO Institute for Statistics, 2008). In the Organisation for Economic Co-operation and Development (OECD) member countries, competency in literacy is assessed using the Programme for the International Assessment of Adult Competencies (PIAAC) Survey of Adult Skills (OECD, 2013). The Survey of Adult Skills measures literacy using a 500-point scale with levels 1 though 5 (OECD, 2013). Adults with literacy proficiency at Level 5 "can apply and evaluate logical and conceptual models, and evaluate the reliability of evidentiary sources and select key information. They are aware of subtle, rhetorical cues and are able to make high-level inferences or use specialised background knowledge" (OECD, 2013). Level 1, requiring the least amount of skill, is characterized by the ability to "complete simple forms, understand basic vocabulary, determine the meaning of sentences, and read continuous texts with a degree of fluency" (OECD, 2013).

For instance, adults at this level may not be able to understand medication dosing and therefore, may administer the incorrect amount of medicine to a child (OECD, 2000). There exists also a level below Level 1 where individuals "are not required to understand the structure of sentences or paragraphs and only basic vocabulary knowledge is required" (OECD, 2013)

Canadians participating in the PIAAC were able to respond to the survey in either English or French, thus the results reflect literacy proficiency in the language of their choosing (Government of Canada, 2021). Among Canadians aged 16 to 65 years, 49% were evaluated to have low levels of literacy, with scores indicating proficiency at Level 3 or below, where Level 3 is typically the level of proficiency required to complete a secondary education, and successfully meet the demands of modern living in an industrialized nation (OECD, 2013; Rootman & Gordon-El-Bihbety, 2008). Among Canadians who were non-native speakers of English or French and were born outside of Canada, average individual survey scores decreased by an average of 29.8 points (OECD, 2013).

2.2 Predictors of Low Levels of Literacy

The OECD (2000) have identified the following 12 sociodemographic and other personal characteristics which predict individual levels of literacy proficiency: "(1) gender; (2) age; (3) non-native language status; (4) parents' education; (5) respondent's own educational level measured in years and levels; (6) labour force participation; (7) industry sector; (8) occupational status; (9) frequency reading memos at work; (10) participation in adult education and training; (11) frequency reading books at home; and (12) frequency participating in voluntary or community-based activities." While the strongest predictor is educational attainment, In Canada, these 12 characteristics explain more than 50% of the variance in literacy proficiency (OECD,

2000). Psacharopoulos and colleagues (1994) observed a positive association between educational attainment and wages. In addition, higher levels of literacy are associated with increased participation in various aspects of society and the workforce, more specifically in white-collar and high-skilled jobs, with lower proportions of individuals experiencing short-term and long-term unemployment (OECD, 2000). In contrast, lower literacy skills are observed in older Canadian adults aged over 65 years old, and all adults whose native language is neither English nor French (Rootman & Gordon-El-Bihbety, 2008).

2.3 Low Levels of Health Literacy

Within a Canadian context, 60% of people aged 16 years and older are characterized as having low levels of HL which has implications for healthcare needs and health outcomes (Canadian Council on Learning, 2008; Rootman & Gordon-El-Bihbety, 2008). Although low levels of literacy and HL are more readily observed and assessed in groups including racial and ethnic minorities, as well as non-native speakers of the language of their country of residence and older adults, difficulties with reading, writing and understanding are often overlooked (Easton et al., 2010). In developed countries, inadequate skills related to HL may be hidden in working-age people who can communicate orally (Easton et al., 2010). One can have high literacy but low HL as current measures of HL include many concepts of functional literacy (OECD, 2000). Thus, it is possible to score high on HL assessments without necessarily having high levels of HL, thus emphasizing the inadequacy of existing measures of HL.

In practice, routine HL screenings can take time away from already limited patient-provider interactions and can induce anxiety, potentially leading to further negative health outcomes (Connelly & Turner, 2017; Paasche-Orlow & Wolf, 2008). Although there are

indicators of limited literacy and HL proficiency such as filling out forms incorrectly or not knowing the name of long-prescribed medications, clinicians frequently overestimate their patients' abilities (Baker et al., 1996; Bass et al., 2002; Kelly & Haidet, 2007). Those with difficulties may not even disclose them to their partners or children, while others may be unaware of them altogether (Moser, 1999; Parikh et al., 1996). However, among individuals who are aware of their difficulties, 39.7% report feelings of shame (Parikh et al., 1996). Such feelings can result in symptoms of depression and impaired ability to benefit from health services, thus resulting in greater relative unmet health and social needs (Easton et al., 2013; Parikh et al., 1996; Schillinger, 2021; Smith et al., 2010). Not disclosing these difficulties to healthcare providers can lead to impaired decision-making, providing uninformed consent, feelings of powerlessness, vulnerability, and diminished self-efficacy in accessing health services (Easton et al., 2010). Still, individuals with low HL will hide their difficulties by not engaging in conversation and will carefully consider the balance between benefit and risk of negative health outcomes that may occur as a result of not disclosing their needs to their providers (Brez & Taylor, 1997; Parikh et al., 1996). Overall, individuals with low HL are less interactive and more passive in interactions with clinicians; they are less likely to engage in health decisions, thus having less agency over their healthcare and health outcomes, and are more likely to report non-helpful patient-provider interactions (Schillinger, 2021).

2.4 Literacy, Health Literacy and Health

Researchers have studied disparities in health status and outcomes across marginalized groups for decades (Thornton et al., 2016). The acronym PROGRESS (place of residence, race, occupation, gender, religion, education, socioeconomic status, social capital) is a sociological

tool used to outline the components of social stratification (Tugwell et al., 2010). Individuals and, at times, communities who live at the intersection of two or more of these PROGRESS determinants experience further disadvantages when compared to those who identify with a maximum of one of these groups (Tugwell et al., 2010). While these factors may not directly influence health, they impact HL which explains, in part, the disparities in health outcomes and health status (Stormacq et al., 2019; van der Heide et al., 2013). There exists a positive correlation between HL and educational attainment with self-reported general, physical and mental health wherein as one factor decreases, so does the other (van der Heide et al., 2013). Thus, low HL is a major determinant of health as it significantly increases the risk of negative health outcomes and death by creating an invisible barrier to healthcare services (Fan et al., 2021).

Low HL further impacts Indigenous peoples and persons with disabilities as this group makes up a disproportionately high amount of the Canadian population with the lowest levels of literacy (Kapsalis, 1999). Nearly 20% of Indigenous Canadians aged 15 years or older are living with a disability, inclusive of physical, psychological, learning, and developmental disabilities (Statistics Canada, 2002). The existing literature corroborates this as Rioux and colleagues (2003) reported that 20% of adults with disabilities have a maximal educational attainment of grade 9 compared to only 8.1% of individuals without disabilities, and 50% of adults with disabilities experience literacy barriers in some from. The OECD (2000) affirms that higher literacy and HL has impacts on social cohesion and health by mitigating stress, and further explains that higher educational attainment in particular is linked to better health and greater ability to use information to make better decisions needed to manage ones health (Drentea & Moren-Cross, 2005; House, 2001; Umberson & Montez, 2010). Thus, subgroups of the

population which require the most assistance have the least access to information and resources needed to make informed decisions related to their health.

2.5 Low Health Literacy and Associated Costs

The ripple effect of low levels of HL is seen far beyond individual health outcomes. Low HL has a significant financial impact on individuals, the healthcare system, and the economic sector (Eichler et al., 2009; Rootman & Ronson, 2005; Thomas, 1989). At the individual level, although there is heterogeneity in the year of the retrieved data, it has been estimated that additional costs on healthcare expenses for people with low HL may be as high as US$7,798 per person per year when compared to those with adequate HL (Eichler et al., 2009). This further disadvantages individuals and families with lower socioeconomic status as those who most need comprehensive and accessible healthcare cannot afford it.

Inappropriate and inefficient navigation and combined use of healthcare services increase the number of visits to a healthcare provider, inpatient services, hospital readmission rates, and emergency department use (Berkman et al., 2011; Eichler et al., 2009). This accounts for 3-5% ($8 billion) of total spending by the Canadian healthcare system (Eichler et al., 2009). This figure is likely to increase in years to come as the population is ageing and older adults are the subgroup of the population with the greatest proportions of low HL by age, with 88% characterized by low HL (Rootman & Gordon-El-Bihbety, 2008).

The Canadian Business Task Force on Literacy (1988) estimates $4 billion in costs due to literacy difficulties annually, $1.6 billion of this being due to workplace accidents. In an evaluation of the Workplace Hazardous Materials Information System, a guide used by employers and workers across Canada to share information about risks in the workplace,

researchers found that this manual required competencies which correspond with an education at the college level (Rootman & Ronson, 2005). However, 626 companies with more than 50 employees across various industries (i.e. mining, transport, construction, finance, real estate, food services, health services, and municipal government) were surveyed regarding the impacts of illiteracy on business, revealing that approximately 70% experience operational problems due to literacy issues (DesLauriers, 1990). Therefore, the literacy and HL demands of various aspects of society may be too high for the average working age adult, resulting in avoidable negative health outcomes and financial expenses.

2.6 Online Health Information

Online health information (OHI) is a resource available for people who wish to supplement the information provided by a healthcare practitioner, or for those who wish to inform themselves. An OHI search can be conducted out of curiosity or personal necessity as a result of a lack of understanding of the information from a provider, family member, or other close personal friend or colleague, or because of an emerging health concern (Daraz et al., 2019). The web contains OHI in many formats: webpages, videos, podcasts, chat rooms, and blogs, among others. The information can be found on television programming, computer-based and mobile applications, and traditional and social media as the assortment of health information sources continues to expand (Moreira, 2018). As the number of sources of OHI is increasing, so is the proportion of OHI seekers in OECD countries (Moreira, 2018). Among the eight most popular online activities, searching for OHI is the second most common, trailing only behind email, with the proportion of individuals searching for OHI nearly doubling in Europe between 2008 and 2017 (28% vs 51%) (Moreira, 2018; Pluye et al., 2019).

The results of a 2020 survey demonstrate that 69% of Canadians using the internet have conducted a search for OHI (El Sherif et al., 2022). The content of the search is variable and is dependent on the health status of the seeker (McCray, 2005). Individuals who are relatively well and have not been recently diagnosed with an acute or chronic illness search for health information periodically, and the content of these searches includes information about preventative medicine, pregnancy, and anti-ageing (Cain et al., 2000). In addition, OHI searches for the relatively well center around convenience of health, healthcare, treatment and services (Cain et al., 2000). In contrast, those who report poorer health status and the relatives of the recently diagnosed conduct OHI searches with a greater sense of urgency and search for OHI more frequently (Cain et al., 2000; Houston & Allison, 2002). Individuals with a chronic illness are more likely to regularly visit bookmarked sites (Cain et al., 2000). Although a majority of Internet users search for OHI, 86% of consumers are worried about the presence of unreliable OHI (Fox & Rainie, 1999). Despite growing concern about the quality of OHI, consumers rarely read the disclaimers or disclosures of a given website (Eysenbach & Köhler, 2002).

2.7 Challenges of Online Health Information

Online resources are widely accessible, with over 94% of Canadian households having internet connection as of 2020, however challenges affecting OHI access and comprehensibility persist (Statistics Canada, 2021a; Tonsaker et al., 2014). An analysis of 7,891 websites targeting the general public regarding any health condition in Canada and the United States revealed that the readability was at or exceeded the skills required to complete high school, thus exceeding the HL competences of most Canadian adults (Daraz et al., 2018; Rootman & Gordon-El-Bihbety, 2008). This is further supported by an analysis of 709,577 abstracts published in scientific

journals between 1881 and 2015 recovered from online databases which concludes that as time progresses, articles contain an increased proportion of "difficult words," an increase in the average number of syllables per word and an increased use of scientific jargon (Plavén-Sigray et al., 2017). This trend indicates a steady decrease in the readability of scientific publications and health information (Plavén-Sigray et al., 2017).

Poor readability of OHI can result in misinformation and the subsequent propagation of inaccurate information (Pehora et al., 2015). Although unintentional, this can have harmful effects on personal, and child health as 98% of parents conduct searches for OHI (Daraz et al., 2018; Pehora et al., 2015). In addition to challenges with access to information and understanding, the quality of available OHI is highly variable (Zhang et al., 2015). This presents additional barriers to individuals with lower levels of education and income, and therefore HL, as the least readable OHI is often the most accurate, and the information requiring the greatest skills from the consumer is the most reliable (Storino et al., 2016). This may dissuade those searching for OHI from accessing trustworthy resources as less than 20% of parents use university and hospital websites when searching for OHI for their children, while 74% of parents regard such resources as safe, accurate, and reliable (Pehora et al., 2015). Although few parents regard public search engines (11.0%) and popular parenting websites (8.2%) as accurate resources, this is where more than 80% of parents begin their searches (Pehora et al., 2015). When conducting an OHI search using a public search engine, it has been observed that the resources with the most visibility, and therefore engagement, often consist of poor quality information when compared to other search results (Tahir et al., 2020). These differences in OHI readability, quality, resource awareness and visibility may contribute to the exacerbation of disparities, rather than their reduction (Schluter et al., 2023).

Socioeconomic factors such as income and level of education are among the strongest predictors of HL and overall health status (El Sherif & Pluye, 2019). Individuals with higher education levels and higher levels of income experience more positive outcomes of OHI as they are more likely to be able to retrieve, assess and use information in order to properly address their needs and make good decisions regarding their health (El Sherif & Pluye, 2019). Contrary to those with higher education levels and income, individuals with lower overall socioeconomic status are less likely to report positive outcomes of OHI (El Sherif & Pluye, 2019). This can be attributed to less frequent OHI searches, greater information needs, and feelings of shame when faced with physician recommendations or resources using inaccessible language (Case & Given, 2016; El Sherif & Pluye, 2019).

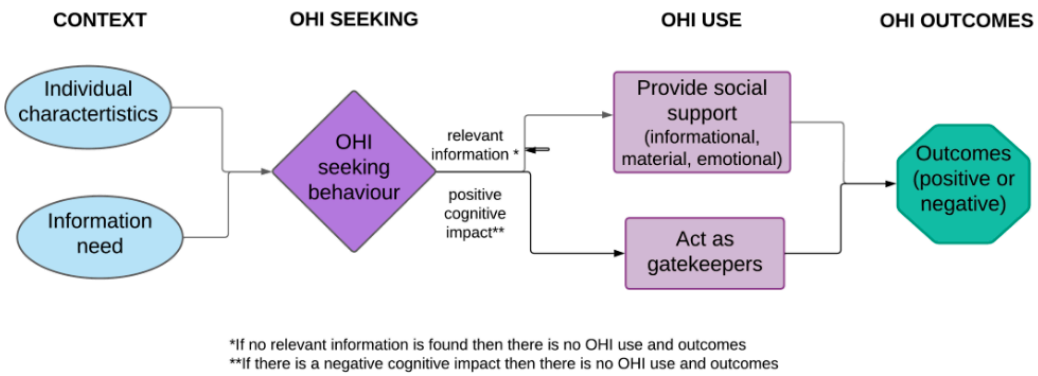
2.8 Proxy Online Health Information Seeking

Proxy OHI seeking is a process that occurs across various populations and circumstances. Among 18,750 individuals across all member states of the European Union, Reifegerste and colleagues (2017) found that 61.1% of adults seek for OHI information on behalf of another person, with 26.6% exclusively conducting surrogate OHI searches. Proxy OHI seekers are most likely to conduct surrogate searches for their partners, children, or other family members (Reifegerste et al., 2017). This is particularly common when seekers perceive themselves as the primary caregiver (El Sherif et al., 2022).

Proxy OHI searchers are typically women, younger in age, with higher maximal educational attainment (El Sherif et al., 2022). This is consistent with recent data from Statistics Canada reporting 2020 trends in internet activities (Statistics Canada, 2021b) . Despite men and women conducting internet searches at similar rates, with 80.2% of men 16 years and older

conducting an online search at least once per day as well as 79.9% of women, there are notable differences in the frequency and content of online searches between men and women (Statistics Canada, 2017). On average, greater proportions of women search for health-related information relative to men (Statistics Canada, 2021b). In the 15-24 age group, 74.6% of female internet users searched for information on various health topics while only 63.4% of male users conducted comparable searches (Statistics Canada, 2021b). These gender-based differences can further be observed when the population is grouped by level of education attained by the internet user (Statistics Canada, 2021b). For instance, 72.2% women and 69.1% of men in the 25-44-year-old age group who have a completed high school education or less searched for health information (Statistics Canada, 2021b). In this same age group, a greater proportion of individuals with a Bachelor's degree or higher searched for health information on the internet (Statistics Canada, 2021b). These searches were conducted by 87.3% of female users and 86.2% of male users (Statistics Canada, 2021b). Therefore, differences in internet search behaviours exist across age groups and level of education, with a greater proportion of women searching for online health information across all groups (Statistics Canada, 2021b).

Figure 2. Outcomes of Proxy Online Health Information (OHI) Seeking Framework



The revised framework of outcomes of proxy OHI seeking (Figure 2) determined two categories of OHI use: (1) to provide social support, and (2) to act as gatekeepers (El Sherif et al., 2022). Social support can be informational, material, or emotional, and is linked to positive physical and mental health outcomes (Drentea & Moren-Cross, 2005; El Sherif et al., 2022; House, 2001; Uchino, 2004). However, proxy OHI seekers may choose to act as informational gatekeepers, intentionally relaying only select results of the search (El Sherif et al., 2022). Although this may be done with the intent to reduce stress, other proxy seekers withhold information to exert control over the patient by pushing or encouraging them into making health-related decisions they would not otherwise make (Brown & Veinot, 2020; El Sherif et al., 2022)

2.9 Health Videos

Disparities in health status and outcomes across many marginalized groups have been studied for years (Thornton et al., 2016). This is one of the main reasons for the rise of effective scientific communication: a rapidly growing field in which research findings are appropriately worded, formatted, and disseminated to their target audience to facilitate the use of new and relevant knowledge (Burns et al., 2003). The same findings can take many forms in order to reach different communities as the public is heterogeneous and composed of vastly different communities with their own common interests, as well as the subgroups they contain (Cooke et al., 2017; Luzón & Pérez-Llantada, 2019). Variables such as the degree of complexity of the language used and the aspect of the research that is shared can be altered in order to fulfill the needs and the roles of a given group (Burns et al., 2003).

The emergence of video interventions has gained popularity and is beginning to spread within and between disciplines. Their relatively nascent nature has led researchers to investigate

the most evident outcomes of these literacy-oriented interventions. These include their impact on health-related knowledge, attitudes, and behaviours, which are proxy measurements of HL.

Knowledge is the most widely studied outcome. Changes can be measured using pre-post questionnaires administered before and after watching a video. Knowledge has been successfully increased with the aid of a video intervention across multiple topics such as atopic dermatitis skin care, skin cancer evolution, risk factors and self-examination, vaginitis, STI and pregnancy prevention, among others (Armstrong et al., 2011; Damude et al., 2017; Lee & Shin, 2018; Swartz et al., 2011). The effectiveness of video interventions has also been studied as it pertains to the increases in knowledge occurring as a result of a video intervention when compared to more traditional literacy-oriented interventions, such as pamphlets or website content. A systematic review conducted by Oudkerk Pool and colleagues (2021) compared the effects of video interventions when contrasted with various controls including no-intervention groups or groups receiving the standard of care. Despite having no differences in personal characteristics or knowledge levels between the groups, the video-based education group demonstrated greater increases in knowledge than the control group (Oudkerk Pool et al., 2021)

Health-related attitudes are widely regarded as representative of an individual's HL (Hernandez, 2009). These include intentions to engage in disease-preventing behaviours, such as screening, self-efficacy to engage in such behaviours, as well as patient satisfaction and attitudes towards disease-related protective and risk factors (Blas et al., 2010; Lauckner & Whitten, 2016; Lee & Shin, 2018; Prakash et al., 2013). The literature suggests that attitudes are improved, in favour of patient health, after video intervention implementation. This trend persists in participants with low HL (Prakash et al., 2013).

The final patient outcome which has been widely investigated is behaviour. This has been studied using randomized controlled trials which randomly assign participants to the video or control condition, provide them with educational materials on a variety of topics in the appropriate format, and invite them to return for a follow-up visit in order to evaluate if there was an uptake or decrease in health-related behaviours (Tsai et al., 2018). Evaluated behaviours include adherence to treatment and medication use, and the frequency of cancer and STI-prevention strategies such as sunscreen use (Armstrong et al., 2011; Swartz et al., 2011). A systematic review of 24 studies evaluating adverse medication behaviours revealed that the video education groups reported less adverse medication-related outcomes and behaviours compared to control groups, and that this association persisted for a longer period of time after the cessation of the intervention (Ciciriello et al., 2013). This trend remains true for individuals across all literacy levels and socioeconomic classes (Ciciriello et al., 2013).

Although much is known about the value of video interventions across many areas of preventative medicine and treatment, there are still areas which require further exploration, namely the impact of "snackable" videos. Little is present in the literature about the feasibility of their implementation for patient-directed care and the acceptability of this interventional medium among patients. Lastly, the impact of these videos on clinical outcomes and the uptake of health and social services is unknown.

CHAPTER 3: METHODOLOGY

Methodology and Methods

Qualitative description is well suited to answer questions such as: "What are people's responses (e.g. thoughts, feelings, attitudes) toward an event? What reasons do people have for using or not using a service or procedure? Who uses a service and when do they use it?" (Sandelowski, 2000). More specifically, data collection is aimed at identifying the "what" of human experiences, typically through the use of minimally structured interviews (Sandelowski, 2000). Therefore, this chosen design is appropriate to help achieve the specific outlined study objectives while incorporating and expanding upon what is already known about the health outcomes of OHI (Pluye et al., 2019; Sandelowski, 2000).

Reflexivity

Sociocultural characteristics and contextual factors influence society's perception of an individual's trustworthiness and authority, impacting interpersonal relationships. As the trustee in this research project, the person asking for participants' trust, both ability-based and personal characteristics such as education/training, cultural background, perceived trustworthiness and transparency shape the participants' perceptions of me and therefore, impact their willingness to trust and truthfully engage in this study (Hancock et al., 2023).

As a white woman born and raised in Montreal, Canada, my positionality has afforded me unearned privileges, shaping the execution and thus, the outcomes of this study (Nixon, 2019). Further, my status as a research trainee affiliated with the McGill University Department of Family Medicine influenced the power dynamics in participant interviews in terms of education,

training, and perception of expertise. However, frequent efforts were made to assure participants that, as parents, they are the experts in childcare and are best suited to provide their inputs on OHI regarding child development and health as I am not a mother and have limited experience acting as a caregiver. This was vital to the process of building rapport and ensuring an environment free of judgement where participants felt comfortable to share their inputs and experiences.

In addition to the personal characteristics of the participants and of the interviewer (RN), the Western understanding of literacy, HL, and the competencies associated with these skills are this study's frame of reference. Social, political, and economic factors, in addition to behavioural and genetic (i.e. racial) further contribute to existing health inequalities including health status and access to health care, thus impacting health outcomes (Nixon, 2019). In an attempt to understand the perspectives of parents with low HL with respect to the perceived outcomes of snackable health videos, efforts were made not to oversimplify the content in order to understand the barriers and facilitators, and to improve efforts at reaching health equity by improving the accessibility of OHI.

Study Population & Recruitment

The participants were parents of young children (aged 0-10 years) who were further characterized by low HL levels. Naître et grandir creates content that covers topics from pregnancy until the approximate age of 8 years old, however, both the supervisor (PP) and the director of N&G (GD) agreed that the inclusion of parents with at least one child 10 years old or younger would result in the recruitment of participants who would provide useful perspectives on the perceived information outcomes from the snackable videos. Parents were contacted

through literacy-oriented community-based organizations in Quebec. These organizations asked potential participants whether they agreed to be contacted (and how) by our research team. We then contacted those who agreed to being contacted using a recruitment email (Appendix I). Those who responded were explained the study and the consent from (Appendix II) using clear and simple language. Specifically, the consent form was read to participants who were invited to ask questions for further clarification. Time was taken to explain and answer these questions as it is known that individuals with low literacy may provide uninformed consent as they may be embarrassed or reluctant to ask for further explanation when presented with new or complex information. Verbal informed consent was also obtained from these parents before proceeding with the data collection. The verbal consent was recorded. Each participant was also asked to send an email of consent stating "This research has been explained to me. The consent form has been read and explained to me, and I consent to participate in this research" or to sign a from attesting to the truth of the same statement.

Sample Size

Purposeful sampling was used and aimed to achieve maximum variation in participants' gender (Coyne, 1997; Patton, 2015). The sample was composed of individuals with the following characteristics: all participants were adult parents (aged 18 years or older) of young children (aged 0 to 10 years) with low HL levels (OECD, 2013; Stormacq et al., 2019), and could speak, in French, to their particular experience with OHI and N&G. Given the recruitment through literacy-oriented community-based organizations, we assumed that participants had a low level of literacy (levels 1 to 3) and documented their level of HL during the interviews. In addition,

participants varied across categories of geographical location, age, gender, educational attainment, employment status, and annual family income.

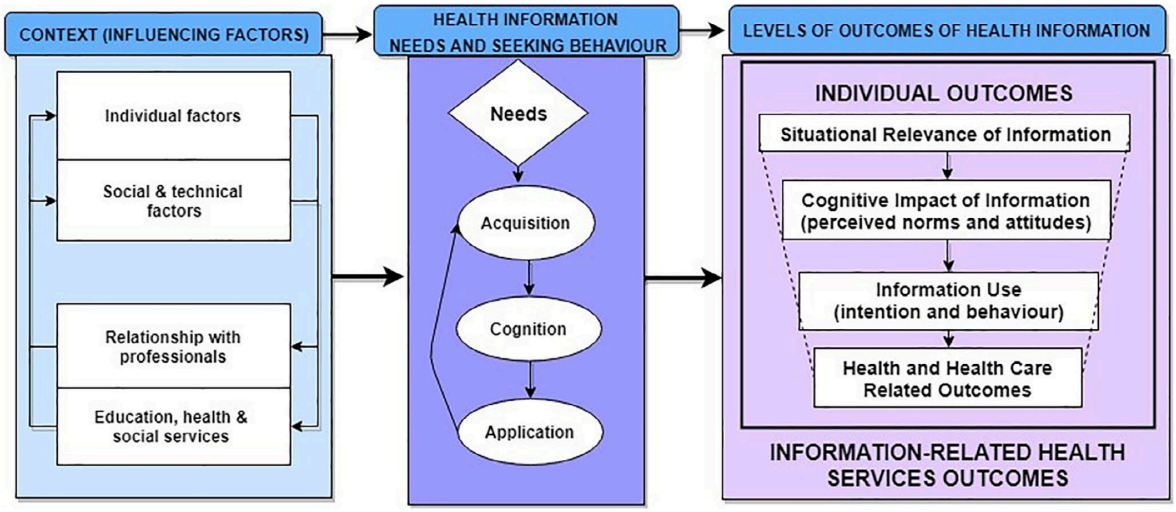
A total of 33 community organizations were contacted via email, and 8 virtual follow-ups were conducted with organization representatives and the research team (PP and RN) via Zoom. Of these 8 organizations, 18 potential participants were identified from 3 organizations. All 18 of these parents participated in the study, which is adequate for qualitative research as Guest and colleagues (2006) concluded that data saturation could be reached in a qualitative study after 12 interviews. This is further supported by the findings of a systematic review of 23 empirical qualitative studies conducted by Hennink and Naiser (2022) which concluded that data saturation was reached between 9 and 17 interviews, with an average of 12-13 participant interviews. For the purpose of this study, data saturation is defined as the point at which no new themes are suggested by the data. This small yet diverse sample facilitated the identification of unique and shared participant experiences (Patton, 2015).

Conceptual Framework

This study was guided by the Health Outcomes of Online Consumer Health Information Model (Figure 3). This model was derived from a systematic mixed studies review with framework synthesis that was aimed to identify online consumer health information outcomes and associated factors (Pluye et al., 2019). It proposes that there are four individual levels of outcomes: (1) situational relevance of information, (2) cognitive impact of OHI, (3) use of OHI, and (4) health and health care related OHI outcomes. It further suggests that there is a fifth, lesser-researched social level which speaks to how OHI can affect health-services related outcomes (Pluye et al.,

2019). This fifth level includes health professionals' and organizational outcomes, as well as other OHI outcomes affecting health services. The five levels of outcomes and their corresponding sub-outcomes are illustrated in Appendix III.

Figure 3. The Health Outcomes of Online Consumer Health Information



Methods for Collecting Data

Data were gathered in a 3-part semi-structured interview of each of the participants which took take place in-person or by videoconference on Zoom. The interviews were recorded, and the interview guide (Appendix IV) was tested with the graduate student's supervisor, Dr. Pierre Pluye, and a parent partner who has previously collaborated on other N&G research projects. The questions within the guide were not specific to the content in the snackable video viewed by the participants, and thus could be tailored to reflect the information presented during viewing. The participants' information needs, information-seeking behaviour and level of HL were documented. The assessment of participants' HL levels was done using the 16-item Short Version of the European Health Literacy Survey (HLS-EU-Q16) which has been validated in

French across categories of age, educational attainment and gender (Rouquette et al., 2018). This questionnaire includes topics of healthcare, health promotion, disease prevention, as well as accessing, understanding, appraising, and applying health information (Rouquette et al., 2018).

All interviews were conducted by the graduate student (RN), and the number of participants per interview ranged from one to four. Each participant watched 1 of 10 predetermined N&G snackable videos (Table 2). Participants in small groups discussed among themselves to select the viewed video. Thus, all participants in a given small group viewed the same video at the same time. This selection of videos ensured that at least one was relevant to each participant in their role as a parent or related to their information needs. Participants were asked open-ended questions regarding their input on the video's relevance, cognitive impact, intention to use and expected benefits. Particular attention was given to the perceived information outcomes in terms of child development, education, and health, as well as service-related outcomes. Then, the interview focused on the usability, accessibility, and perceived advantages and disadvantages of N&G snackable videos compared to traditional videos, webpages and audio webpages. The development of these questions was guided by the characteristics outlined in *Communiquer pour tous: Guide pour une information accessible*, a manual summarizing the impact of linguistic and visual characteristics of information on accessibility and understanding (Ruel et al., 2018).

Methods for Analysing Data

Upon the retrieval of the data, the interview audio files were securely transferred to a professional French language transcriber and were transcribed verbatim. For each participant's interview transcription, a hybrid deductive and inductive qualitative thematic analysis was

performed by the graduate student using NVivo. During the analysis, themes were derived from the Health Outcomes of Online Consumer Information Model (Pluye et al., 2019). The analysis considered the influence of the diversity of participants in terms of information needs, information-seeking behaviour, level of HL, geographical location, age, educational attainment, employment status, and annual family income.

Methods for Ensuring Trustworthiness

In order to ensure trustworthiness during the research process, two main techniques were put into effect. The first was peer debriefing (Guba, 1981). This occurred every four participant interviews. The graduate student's supervisor (PP) provided feedback about the research process and asked questions which challenged the student's interpretation and understanding of the findings at a given point in the project. This opened discussion up to any questions and indications of any necessary changes to the research protocol, specifically the interview guide.

In qualitative research, there is a movement away from objectivity, towards confirmability, thus making reflexivity, a technique used uphold interpretational confirmability, an essential step in ensuring trustworthiness. This required the researchers to acknowledge their assumptions and how their epistemological position may result in a course of questioning or the prioritization and emphasis on factors which would differ from that of another researcher (Guba, 1981). Furthermore, it is essential to consider one's position when interpreting the data and arriving at conclusions. For this reason, a detailed journal was kept with entries made following each participant interview. These entries were used for discussions during peer debriefings.

Ethical Considerations

This study was conducted in accordance with the ethical principles stated in the World Medical Association Declaration of Helsinki (2013). Ethics approval (Appendix V) was obtained by the McGill University Research Ethics Board (IRB Internal Study Number: A08-E33-22B) before participant interviews began. An amendment (Appendix VI) was obtained to accommodate the addition of small group interviews.

Risks and Benefits

There was little to no risk to the participants with regards to their involvement in this study. In addition to preserving the anonymity and privacy of the participants, the focus on informed consent was paramount in this study. Since included participants were characterized by low literacy levels, using simple lay language and obtaining informed verbal and written consent through the process was crucial. There was little or no direct benefit to the participants.

Recruitment and Consent Process

Participation in this study was voluntary. Participants were parents of young children (0-10 years old) with low literacy levels. No participant recruitment was done at any McGill sites; nevertheless, as McGill affiliation was not an explicit exclusion criterion, some respondents may have been affiliated, in some way, to McGill. The project procedure and expectations were described to the participants in simple language, and they were given time to think about whether they were willing to participate, ask questions, and have their questions answered to their satisfaction. A consent form (Appendix II) was provided prior to the interview; then, the form was read to participants by representatives at each of the participating literacy-oriented organizations. Parents consenting to the interview were encouraged to ask for clarification and

were presented with the opportunity to ask for further clarification at the time of the interview, where the researcher (RN) also read the consent form with the participants. Each participant was asked to provide written (email or handwritten) and verbal consent. Verbal consent was recorded at the beginning of the participant interview via a videorecording on Zoom.

Compensation

Each participant in this study was compensated for their time with a $30 gift card. Of the 18 participants, 17 were presented with the gift card upon completion of the interview, and one gift card was sent in the mail due to the participant's geographical remoteness. All participants provided written confirmation upon receipt of the gift card.

Confidentiality and Data Security

All study-related files and video recordings were password protected in addition to being stored in a password protected computer. Only members of the research team (Nikolopoulos and Pluye) have access to these files. Any physical copies were securely stored in a locked cabinet for the duration of the study and will be destroyed after the analysis of the data and final thesis submission. All digital files were saved in Dr Pluye's external password-protected device and will be destroyed seven (7) years after the end of the study. Any identifying information will be retracted in any presentation or publication.

Conflict of Interest

This study was sponsored by N&G and was conducted in partnership with the N&G director (GD). This will be declared in all presentations and publications.

4. RESULTS

4.1 Participant Demographics

Table 1. Participant Demographics

Variable	Total Participants (n=18)
Gender	
Female	15 (83.3%)
Male	3 (16.7%)
Education	
Bachelor's or higher	2 (11.1%)
DVS or ACS	5 (27.8%)
High school	3 (16.7%)
Lower than high school/ PNTA	8 (44.4%)
Employment Status	
Employed	3 (16.7%)
Unemployed	15 (83.3%)
Household Gross Yearly Income (2023 $CAD)	
<$20,000	9 (50.0%)
$20,000-$39,999	4 (22.2%)
$40,000-$59,999	2 (11.1%)
>$60,000	1 (5.6%)
DK/PNTA	2 (11.1%)
Type of Housing	
House	3 (16.7%)
Apartment	13 (72.2%)
Low-rental housing (HLM)*	2 (11.1%)
History of Financial Worry	
Yes	12 (66.6%)
No	5 (27.8%)
DK/PNTA	1 (5.6%)

DVS: Diploma of vocational studies, obtained upon completion of CEGEP
ACS: Attestation of collegial studies, specialized technical programs designed by individual colleges to address the unmet needs of the workforce
DK: Don't know / PNTA: Prefer not to answer
*Low-rental housing (HLM): housing subsidized by the provincial government in which occupants pay 25% of their income in rent

All consenting participants completed the interview, thus a total of 18 parents were interviewed across 8 semi-structured interviews: 2 individual and 6 small group. Small group breakdowns were as follows: 4 interviews with 2 participants each, and 2 interviews with 4 participants each.

Individual interviews lasted an average of 30 minutes while small group interviews lasted an average of 46 minutes. Data saturation was reached by the 8th participant interview.

All participants were adults between the ages of 30 and 46 with a mean age of 37.2 years. Mothers represented 83% (n=15) of participants, and 17% (n=3) were fathers. At the time of the interview, participating parents had a maximum of 4 children; 3 parents (16.7%) had 1 child, 7 parents (38.9%) had 2 children, 6 parents (33.5%) had 3 children, and 2 parents (11.1%) had 4 children, the youngest was aged 1 month and the oldest was aged 21 years.

4.2 Health Literacy Questionnaire

The 16-item Short Version of the European Health Literacy Survey (HLS-EU-Q16) was used to determine the HL level of each of the participants. This survey categorizes HL results into 3 levels: *sufficient*, *problematic*, and *inadequate*. In order to receive a *sufficient* score, participants were required to accumulate a score of 13-16 on the questionnaire. Participants with *problematic* or *inadequate* HL scored 9-12 and 0-8 out of 16, respectively. Of the 18 participants, 39% (n=7) perceived their HL to be sufficient, 50% (n=9) had problematic HL, and the HLS-EU-Q16 revealed that 11% (n=2) had inadequate HL.

Table 2. Choice of Naître et Grandir Videos According to Pregnancy or Child Age

Category	Video Title	Number of Participant Viewers (n=18)
Pregnancy	Grossesse: le café, le thé et les tisanes	Not selected
	Nausées et vomissements pendant la grosesse	Not selected
0 to 12 months	De la bassinette au lit d'enfant	Not selected
	La poussée dentaire	2 (11.1%)
1 to 3 years	Apprentissage de la propreté	Not selected
	Les terreurs nocturnes	4 (22.2%)
3 to 5 years	Les enfants et les jeux vidéo	2 (11.1%)
	L'anxiété chez l'enfant	3 (16.7%)
5 to 8 years	Les effets du sommeil sur le développement de l'enfant de 5 à 8 ans	Not selected
	L'intimidation: comment la reconnaître et réagir	7 (38.9%)

4.3 OBJECTIVE 1 – HEALTH OUTCOMES OF OHI

Participants were asked to identify the perceived health outcomes of the snackable health video viewed during the interview. The four individual health outcomes, as well as their sub-outcomes, which will be explored in this section are: (1) Situational Relevance of OHI, (2) Cognitive Impact of OHI , (3) use of OHI, and (4) Health and Health Care Related OHI Outcomes, and are derived from the Health Outcomes of Online Consumer Health Information Model (Appendix III) (Pluye et al., 2019).

Outcome 1: Situational Relevance of OHI

All parents agreed that the novel snackable video format was able to address their information needs. In particular, they noted how the video was able to answer the specific queries they had surrounding a particular question about their child's health or behaviour.

Ça répond vite à tes questions que tu as besoin, souvent, quand tu te demandes… Genre, comme moi, ça ne fait pas très longtemps, elle a commencé les terreurs nocturnes, donc c'est facile d'aller chercher les informations, les conseils, les trucs. (Participants #5 & #6)

Situational relevance is required for all other outcomes of OHI, thus it is imperative that participants be able to identify with the intervention content, in addition to its format. Several participants expressed that they felt the video was tailored to the needs of caregivers, including parents.

[On] le voyait qu'il y avait des adultes avec des enfants et on lisait que c'était un questionnement sur ton enfant, en tout cas, ou tuteurs, aux gens qui s'occupent des enfants. (Participants #5 & #6).

Outcome 2: Cognitive Impact of OHI

Impact on Learning

Upon watching the chosen snackable video, just over half of the parents reported having learned something new or acquired a new understanding of a preconceived idea or norm. However, 5 parents expressed not having learned any new information from the video.

Non, parce que moi, je l'ai comme choisie parce que justement, je voulais voir si j'allais apprendre des choses, parce que moi, c'est comme quelque chose que j'ai viré et viré et cherché. Je veux dire, j'en ai une de 11 ans et l'autre de 6 ans, donc ça fait très longtemps que je suis là-dedans. Je les ai fait suivre les deux avec des spécialistes. C'est un très bon survol. Mais non, je… Écoute,

quelqu'un que ce ne serait pas dans son habitude, sûrement qu'il aurait appris quelque chose, sauf que, c'est ça, je n'ai pas appris. (Participants #5 & #6)

Parents stated that the nature of the content and its use as an overview of a given topic, and previous in-depth experience with a child who has already matured beyond the age group represented in the video as reasons for this outcome.

Impact on Memory

Participants were reminded of what they already knew while watching the videos, recounting past experiences with their children or knowledge that was passed down from their parents and grandparents, or shared by other parents in similar situations.

Moi, ce que ta vidéo me fait, que j'aie appris quelque chose de nouveau ou pas, je pense que des fois, ça fait du bien de te le faire rappeler. Même si je n'ai peut-être pas appris là, ça ne veut pas dire que dans d'autres, je n'apprendrai pas, et ça ne veut pas dire de me faire rappeler, dire : « Oui, c'est vrai que… », parce que des fois, on se tape sur la tête, on est grand, on est dus envers nous autres, mais ça, ça fait comme : « Ah, c'est vrai, je vais dehors. Mais oui, ils ont le droit. » Des fois, ça fait comme un petit baume. (Participants #9 & #10)

Impact on Motivation to Learn

The links provided at the end of each of the videos encouraged 6 participants to continue to learn more about the topic of the viewed video. The snackable videos are an overview of the accompanying webpage which is an in-depth, structured reference with advice and resources on how to prevent and manage common health events for children aged 0-8 years.

Ça n'a pas tout été dans les détails, mais si tu veux en savoir un petit peu plus, tu vas sur le lien, parce que ça peut se manifester d'encore plus de façons que ce qui est écrit. (Participants #5 & #6)

Participants also mentioned that the brevity of the video and the presented information led to an emphasis on key words which would allow them to conduct their own OHI searches, both within and outside of Naître et grandir.

Impact on Satisfaction with Information

Most participants (n=15) expressed overall satisfaction with the information presented in the video, with nearly half of the parents (n=7) feeling like the information provided was complete and answered their questions.

En général, oui, mais on a dit aussi qu'il y avait une autre vidéo qui pouvait aider. Oui, déjà, juste la petite vidéo d'une minute, tu as beaucoup d'infos. (#7 & #8)

Impact on Safety

All participating parents did not perceive that the information in the video would yield any negative consequences. However, a participant was concerned that, due to the levels of HL of the target population, there is a possibility that a misunderstanding or inappropriate application of the content could result in negative outcomes.

Impact on Worry

All parents agreed that the viewed video was able to dimmish their worries. This was attributed to several reasons, including knowing where to search for OHI used to make decisions regarding their child's health and development, and that said information is trustworthy and evidence-based.

> *Oui. En sachant où aller, ça enlève du stress. Ça aide à avancer. Clairement, on en avait besoin. (Participants #3 & #4)*

Two parents further attributed decreased stress as a result of the advice and information offered by Naître et grandir to its geographical relevance as a Quebec-based web publisher.

> *C'est l'une des raisons pour quoi je me réfère plus souvent à Naître et grandir, vu que je sais que c'est ici, parce que ça arrive souvent que tu fais des recherches et que tu tombes sur un site de France, mais ce n'est pas les mêmes choses du tout. (Participants #5 & #6).*

Furthermore, a participant mentioned that her status as a recent immigrant to Canada has led to stress when trying to navigate the provincial healthcare system and available resources. Upon watching the video of her choice, this mother expressed relief and stated:

> *[P]arce que d'autant plus, je suis une nouvelle arrivante. Je ne sais pas où aller, quoi chercher. Là, on a une source fiable. (Participant #2)*

Outcome 3: Use of OHI

Use for Decision-Making

All participants mentioned that the snackable videos could be used for decision-making with another person, including the child's other parent, their current partner, the child's grandparents,

as well as schoolteachers and administration. When asked if these videos would help with decision-making, one parent said:

> *Moi, oui. Si j'ai la chance, oui, clairement. Déjà là, je vais en discuter avec mon conjoint. Je vais en discuter avec mon copain, parce que je trouve ça assez intéressant. (Participants #9 & #10)*

In addition, parents also discussed the possibility of using the snackable videos as a tool to begin to include their children in decision-making regarding their own health or related behaviours and attitudes.

Use for Confirmation

Use of the snackable video for confirmation was a recurring outcome across all participants.

> *Ça m'a rassurée parce que là, ils viennent de confirmer ce que j'ai fait avec mon fils, donc j'avais la même… Je me sens fière. (Participant #2)*

Parents mentioned how the video's content validated what they had already done, and how it can be used to effectively manage a future event.

Use for Change of Health Management

During the interviews, 6 participants expressed the intention to change their behaviour as a result of watching the Naître et grandir video. Behaviours included soothing their child's teething pain (n=2), enforcing rules around screen time and video games (n=2), and managing symptoms and manifestations of anxiety (n=2).

Use for Discussion with a Health Professional

When asked to explore other possible outcomes of use of OHI, in particular those occurring as a result of the Naître et grandir videos, 2 parents mentioned that they would use these capsules to engage in conversation with their child's healthcare provider. One parent mentioned that they would use the information in discussion with their provider in order to confirm something that they suspected, however they were previously unable to explain.

> *Ça te permet d'arriver [chez le médecin] et de pouvoir dire : « J'ai lu ça dans Naître et grandir et ça colle beaucoup à mon enfant. Qu'est-ce que tu en penses? » (Participants #5 & #6)*

Another parent mentioned that they would use the new information they learned in discussion with their healthcare provider to discuss if the video's content may be relevant to what they, or their child, is experiencing.

> *Ça met la lumière sur quelque chose, puis tu peux au pire en parler à ton médecin pour voir, en fin de compte, si c'est de l'anxiété ou si c'est carrément autre chose. (Participants #5 & #6)*

Providing Social Support

All participants explained that they did intend to share the snackable videos with others. Specifically, these parents mentioned their friends, neighbours, and other parents frequenting the literacy-oriented community-based organizations where participant recruitment took place. However, the most common groups mentioned were family members, other parents or prospective parents, and their online communities.

C'est sûr. C'est sûr que si la vidéo se promène sur Facebook, qu'elle est plus accessible, que je la vois plus, c'est sûr que moi, des trucs comme ça, des choses comme ça, je partage, parce que moi, j'aime beaucoup expliquer aux autres pour qu'eux aussi, ce soit plus simple. Tout ce que je fais pour mes enfants, c'est de l'enseignement à moi et j'aime ça, partager l'enseignement. (Participants #5 & #6)

Outcome 4: Health and Health Care Related OHI Outcomes

Participants were asked to reflect on how these snackable Naître et grandir videos may impact their overall satisfaction with health or healthcare. These outcomes include involvement or engagement in making health decisions, health problem management, prevention, improvement, or worsening (Pluye et al., 2019).

The outcome for involvement refers to the parents' perception of feeling better prepared to make decisions about medical treatment and the management of their child's health and development. Similarly, problem management is one of the perceived outcomes as parents noted they could use this information in order to identify an issue, and act accordingly.

Un coup qu'on le sait, on peut essayer de le gérer. (Participant #1)

These videos may be of particular use to parents when their child has reached a new milestone or is experiencing an event which the parent has no previous experience with or knowledge of.

Ils te donnent la solution. Des fois, on est perdu, parce qu'au début, justement, quand mon fils, il lui est arrivé une situation, voilà, j'ai cherché sur Internet comment je dois réagir. (Participant #2)

Participants further stated that these snackable video capsules can prevent health problems, as well as improve heath or prevent worsening of a health-related attitude or behaviour for them or for their children. This can be attributed to sharing information and knowing what to do when problems arise, thus being able to manage them, and not allowing them to become severe.

> *D'en parler, comme c'est dit aussi. Mettons qu'il en vivrait ou même s'il n'en vit pas, ça nous rappelle… l'annonce nous rappelle aussi qu'il faut leur en parler. Ils ne sont pas obligés de vivre le problème pour savoir quoi en faire si ça arrivait, ou s'il y a un ami à l'école ou quoi que ce soit, ou de nous le ramener et qu'on est là pour le soutenir. Ça rappelle, que tu aies le problème ou non, qu'il y a de quoi à faire. (Participants #3 & #4)*

4.4 OBJECTIVE 2 - ACCESSIBILITY OF THE SNACKABLE VIDEO

Participants were further asked to identify the aspects of N&G snackable videos which may enable or hinder information accessibility, learning and behaviour change. These components are outlined in *Communiquer pour tous: Guide pour une information accessible* (Ruel et al., 2018).

Choice of Words

All participants noted the choice of words used in the videos, particularly their comprehensibility, as a key aspect of the video's accessibility.

> *Oui, c'était clair. Ce n'était pas compliqué non plus. Tout le monde va être capable de le lire. (Participants #5 & #6).*

Participants were pleased that the language used was not typical of jargon they encountered in other OHI and facilitated their comprehension.

Non, ce n'étaient pas des mots de dictionnaire. Ce n'était pas… c'était assez simple […] Non, c'était des mots bien normaux. (Participants #11-#14)

Although the clarity of the words was the most preferred aspect of this new type of video intervention for several parents, this sentiment was not shared by those who were unable to read (n=1) or those who may not have had the opportunity to read the information displayed on screen before it transitioned to the next idea.

Colours

The contrast between the background and text colours was appropriate and chosen to facilitate reading, as reported by participants.

Oui, et les contrastes étaient bons. Ce n'était pas, genre, du blanc sur du jaune où tu fais comme… (Participants #5 & #6)

In addition to the contrast, the participants stated that the use of background colours other than black and white was inviting and did not lead to eye strain and fatigue, when compared to other sources of OHI.

Oui, ça capte, mais ça ne fatigue pas. […] Et je trouve que la couleur… Blanc, noir, c'est plus informatif, c'est plus attaquant, tandis que là c'était comme une belle couleur. (Participants #15-#18)

Included Information is Essential

Nearly all participants (n=16) were in agreement that the information included in the snackable videos was relevant and contained the necessary items required to answer their questions, namely, the question addressed in the chosen video's title.

C'est court. Oui, je vois, là. C'est court et ils te donnent l'essentiel. Ils ne parlent pas beaucoup juste pour parler. Des fois, tu vois des vidéos et il reste presque une heure et tu ne sors pas avec… (Participant #2)

The included information is essential, and the videos did not contain information that could not be applied or was inconsistent with the information needs of parents with young children.

Moi, je trouve que c'est clair, c'est simple, et surtout il n'y a pas trop d'informations inutiles. C'est réglé. (Participants #9 & #10)

Sentence Length

One participant provided input on the sentence length used in the snackable videos. They noted that the shorter sentence length emphasized keywords, leading to ideas needed for health and behaviour management.

Ce n'était pas des longues phrases non plus. C'était des petites phrases courtes quand même bien expliquées, qui te mettent la lumière sur certaines choses. (Participants #5 & #6)

Paragraph Length

Participant outcomes varied with respect to the length of paragraphs, with few (n = 4) participants identifying moments throughout the video where the amount of text displayed on screen was overwhelming and led to confusion, not allowing the viewer to finish reading before the video transitioned to the following idea.

> *Quand c'est une phrase, ce n'est pas pire, mais quand c'était un bloc comme ça sur le côté, là… Moi, j'ai une lecture quand même… Des fois, je m'enfarge dans les mots, puis quand je m'enfarge dans les mots, il faut que je revienne, puis là il y a des fois que j'étais comme : « Oups. » J'ai fini juste à la seconde que ça a changé. Mais j'avoue que j'aurais eu l'option de faire « Pause ». (Participants #5 & #6)*

This remained true for participants with both more and less advanced perceived reading skills.

Video Length

All participant attitudes towards the one-minute duration of the Naître et grandir snackable videos were favourable. Participants cited three main reasons: (1) their ability to remain engaged throughout the entire video, (2) their ability to follow brief ideas summarizing "must-know" content, and (3) a lack of time to search for and engage in longer-form video content due to the demands of parenthood.

Speed

All 18 parent participants were in consensus regarding the speed of the video, each one mentioning that the amount of time text was displayed on the screen before transitioning to the next idea was inadequate. For instance, one participant stated:

> *C'est plate, mais c'est… moi, j'ai une lecture lente. Je veux apprendre, je veux savoir ce qu'ils disent, mais je n'ai pas eu le temps de lire les trois quarts. J'ai eu le temps de lire la première lettre et le dernier mot. (Participants #11-#14)*

Although participants expressed their desire and willingness to adopt a new OHI tool that would provide them with an overview of relevant information needed to prevent or manage their child's health, they were unable to due to the timing of the video. This persisted across all reading levels, according to participants.

> *Les textes, des fois, étaient trop longs et changeaient et je n'avais pas le temps, et moi, je sais très bien lire. (Participants #15-#18)*

5. DISCUSSION

This qualitative descriptive study aimed to identify the strengths, limitations, and perceived individual outcomes of novel, literacy-oriented snackable videos from the perspective of parents with low health literacy, as well as identify and propose priorities recommendations and performance indicators for efficient and accessible health literacy interventions.

This study addressed the needs of our partner, N&G, as their mission is to continue to provide access to free, evidence-based health information to all parents. Previous studies have shown how influential N&G is to Quebec parents, particularly those with low HL. A study in partnership with N&G surveyed 1889 mothers living in Quebec using the Information Assessment Method (IAM) questionnaire, a tool designed to assess the importance of information outcomes, validated for various populations, including parents characterized by various components of low SES (low level of income and a low level of education) (El Sherif et al., 2022; Granikov et al., 2020). The content of the IAM questionnaire corresponds with the five levels of outcomes (ie. situational relevance of information, cognitive impact of information, information use, health and health care related outcomes, and information-related health services outcomes) outlined in the Outcomes of Online Consumer Health Information Model, which served as the framework that guided this pragmatic study (Pluye et al., 2019). The study by El Sherif and colleagues (2022) found that low SES mothers were more likely to report that they better understood a topic, had decreased worries, and increased self-confidence in making a decision with someone else upon viewing the content of a given N&G webpage.

To the best of our knowledge, this is the first study to investigate the health outcomes of snackable videos for parents with low HL. During the deductive-inductive thematic analysis, themes were sorted into outcomes and sub-outcomes defined by the Outcomes of Online Consumer Health Information Model (Appendix III). Although no new outcomes emerged (Pluye et al., 2019), and health service-related outcomes were not captured in this study, our findings support the conceptual framework's appropriateness to identify the perceived individual health outcomes of OHI. This may be due to the prompts in the interview guide as they did not explicitly include questions related to individuals' relationship with their provider, changes in the healthcare providers' practices, as well as changes to the healthcare system.

Participants recognized that snackable videos are aligned with their role as parents, caregivers, and community members, due to its format, reliability, length, and easily shareable web-based nature. Though participants had low HL, they were aware that the quality of OHI varies between sources, and expressed relief that Naître et grandir provides comprehensive and comprehensible content, which speaks to their overall satisfaction with the intervention. In addition to decreasing parental worry, the cognitive impact of the intervention resulted in learning, and increased participant motivation to learn by conducting further OHI searchers and consulting their entourage. The snackable videos also served as a reminder and memory aid to parents, confirming their previous knowledge and actions taken to manage their child's health.

The intent to use the information in these educational snackable videos had an impact on autonomy and self-confidence as the intervention improved the participants' perceived ability to prevent or manage health problems by making decisions and effectively navigating the

healthcare system. This study further revealed outcomes related to parents' abilities to become involved in their child's care by engaging with health providers, when needed. Participants expressed feelings of pride and confidence in their ability to care for their child upon finding a reliable and evidence-based source that confirmed their health-related attitudes. Though the literature on the impact of snackable videos on health outcomes for this population is limited, this study's findings align with the literature on the impact of educational videos on health-related knowledge, attitudes and behaviours for parents with low HL, and are part of the Outcomes of Online Consumer Health Information Model's ongoing ecological validation process (Ciciriello et al., 2013; Lee & Shin, 2018; Pluye et al., 2019; Prakash et al., 2013).

Although participants did not perceive this information to cause harm or result in negative health outcomes, parents alluded to the potential for harm to occur due to misinterpretation of information as a result of limited HL. Parents with low HL are more likely to make errors in medication dosing, and formula preparation (Connelly & Turner, 2017; Wallace et al., 2016). As low HL is associated with the limited ability to manage one's health, this extends to the health of those who they care for.

5.1 RECOMMENDATIONS FOR IMPROVEMENT

Video Speed

Among participants, having the information on the screen for a longer amount of time, was the most common recommendation for improvement. All 18 parents commented on the video's speed, stating this change would permit people with varying literacy levels to successfully read the text in time, facilitating comprehension and learning. Knowledge is one of the main

precursors to behaviour change as it provides the "why" needed to make informed decisions, therefore altering the speed will then permit viewers to understand the risks and benefits of treatment and aid in management their child's health, development, and education (Arlinghaus & Johnston, 2018).

Video Length

Altering the speed has implications for the overall length of the Naître et grandir snackable videos. However, a study of educational videos in the form of lectures and "how-to" tutorials revealed that videos up to three minutes in duration had the highest engagement (Guo et al., 2014). As the length of the video impacts the proportion of the videos viewed, with the proportion increasing as the video's length decreases, increasing the overall length by up to two minutes will still yield an effective educational intervention (Park et al., 2016).

Narration

Participants further recommended the addition of narration to the video. This would aid viewers with varying levels of literacy to follow the video's content, and those with limited literacy to gain access to this information. In addition, narration is a feature which encourages engagement by viewers of educational video content (Brame, 2016).

Use of Images

In addition to narration, parents who perceived their level of literacy to be lower relative to other participants emphasized the need for more images or diagrams to provide context and supplement the information provided via text in the video. A study of 1,000 adults with lower

education and literacy determined that graphs and diagrams are effective at communicating risk, a key aspect of health practices such as medication dosing, in this population (McCaffery et al., 2012).

Visibility

Improving the reach of these videos can increase their impact in the battle against misinformation. Parents noted that the videos' duration of less than one minute would make them suitable as targeted ads on Facebook and YouTube to viewers of other parenting content. This would also promote Naître et grandir to a wider audience throughout the province and other regions of Canada as the snackable videos are offered in both English and French.

5.2 LIMITATIONS

Evaluation of All Health Outcomes of Online Consumer Health Information Framework

This study was unable to evaluate the impact of snackable videos on information-related health services outcomes, the fifth outcome outlined in the Health Outcomes of Online Consumer Health Information Model (Pluye et al., 2019). In particular, health professional's outcomes and organizational outcomes could not be adequately assessed as a participant follow-up was not conducted. The intention to use OHI was not appropriate to determine if the intervention had an impact on professional practice and healthcare system use, an outcome determined by a behavioural use of OHI. Similarly, with the fourth outcome of OHI, health and health care related outcomes, this study may not have been designed to assess the video's impact on the sub-outcomes as they are the result of a behavioural use of OHI, specifically *satisfaction with care* and *relationship with a health professional*.

Health Literacy Level Across Participants

A specific objective of this study was to assess the OHI outcomes of a snackable video for parents of young children with low HL. Due to challenges with recruitment, we were unable to ensure that all participants scored in the *inadequate or problematic* category, according to the HLS-EU-Q16 (Rouquette et al., 2018). Parents recruited from one participating community organization completed self-administered HL questionnaires. This may have led to the overreporting of socially desirable or favourable health-related attitudes or behaviours regarding participants' perceived abilities to find, understand, and use reliable health information. Although all participants completed the questionnaire, none were excluded based on their score even though 7 perceived their HL to be *sufficient*.

Appropriateness of Sample

When asked if they had learned anything after watching the snackable video, 5 parents stated that none of the information presented was new to them. Although all parents did have at least one child aged 10 years or younger, parents with more than one child had children as old as 21 years old. This may have prevented the potential cognitive impact on learning that we hoped to identify during this study. Parents noted that they were already familiar with the information presented in the videos and experienced related health events or behaviours with their older children.

Number of Participants Per Interview

Due to recruitment difficulties and participant scheduling conflicts, community organizations recommended that small group interviews take place instead of individual interviews to

maximize the number of participants recruited from a given organization. Though this increased the number of participants, in settings where two or four participants were being interviewed at once, there were instances where not all participants were given the opportunity to answer every question, often simply agreeing with what their peers had said. The small group format may have influenced participants to provide socially desirable answers or those more in line with what their peers had said (Acocella, 2012). Although efforts were made to ensure that all voices were heard, future research within this population should emphasize the need for individual interviews to ensure participant safety and genuine responses.

5.3 KNOWLEDGE TRANSLATION

Naître et grandir is a Quebec-based online publisher, providing parenting content that is available in written and audio format, with the integration of video capsules and modules that address various aspects of health, behaviour and development for children aged 0-8 years. The ongoing partnership between McGill University and Naître et grandir spans nearly 10 years and has impacted the accessibility of health information, resulting an increase in parents perceived ability to improve or maintain health status and prevent disease, especially parents with low HL (Pluye et al., 2020).

Though the use of OHI increases knowledge and decreases parental worry, the reach of Naître et grandir is not exclusive to the individual conducting the search, as users are often conducting searches for their children, which was expected since most proxy OHI searches are often conducted for the seeker's partner, child, or other family member (El Sherif et al., 2022; Reifegerste et al., 2017). Outcomes of proxy OHI seeking includes the improvement of the

recipient's health, with outcomes further experienced by members of one's social entourage, including family members, friends, and other community members such as neighbours and other parents (El Sherif et al., 2022).

The perceived outcomes and usability of Naître et grandir's novel health intervention for parents with low HL are essential to improving the accessibility of health information, thus acting to reduce the disparities in health outcomes and overall health status for low SES families as well as their communities (Stormacq et al., 2019; van der Heide et al., 2013). This study's objectives were designed with and for knowledge users. The practical application of the findings will result in the improvement of both the usability and the accessibility of N&G health and parenting information which aligns with their mission to prevent poverty by creating conditions that foster knowledge and favour positive educational, and therefore health outcomes for vulnerable parents and communities (Granikov et al., 2020). These outcomes will hopefully encourage behaviour change, reducing inappropriate or ineffective uses of the healthcare system, and improving N&G users' self-confidence in understanding medical risk and in their ability to make informed decisions regarding their child's health (Morrison et al., 2014; Smith et al., 2010). In addition, these findings demonstrate a need for policy implementation that will support the information needs of our aging Canadian population as adults over 65 are characterized by the lowest literacy skills, with the number of older adults expected to increase by 68% between 2017 and 2037 (Canadian Institute for Health Information, 2017). The implications are relevant for domains beyond health information and are not limited to the Canadian context.

5.4 IMPLICATIONS FOR FAMILY MEDICINE

As of 2023, more than 6.5 million Canadians do not report having a primary care provider (family physician or nurse practitioner), increasing significantly from 4.5 million in 2019 (Duong & Vogel, 2023). Therefore, the demand of the population exceeds the capacity of the healthcare system, and the gap is only continuing to grow. Unnecessary visits to one's primary care provider can be mitigated by empowering the population to be active agents in their own healthcare and health management (Al-Shorbaji, 2012). This is only possible when reliable information is accessible and comprehensible by the population; achieving this presents a challenge, because 60% of Canadians over 16 years old have low levels of health literacy (Rootman & Gordon-El-Bihbety, 2008). When demands on the healthcare system do not exceed its capacity, it seems more evident that providers are more likely to be able to provide comprehensive care to more patients with conditions that require medical treatment, and to those who may require support to make decisions regarding their health or the health of their children.

In addition to providing Naître et grandir with recommendations which will allow them to improve the usability and accessibility of their snackable health videos, the findings from this qualitative study will inform the development of strategies permitting N&G to enhance the reach and visibility of their content. The Public Health Agency of Canada (PHAC) (2010) has declared that "healthy pregnancy and early childhood development" and "the availability, accessibility and quality of health care, social, educational and other services" are among the factors that determine the overall health of the population. Thus N&G's mission to address the information needs of populations from varied economic, educational, and social backgrounds is aligned with the objectives of the Ministers of Health and of Health Promotion/Healthy Living of Canada to

improve the health of Canadians by promoting healthy living and disease prevention which have implications for primary care physicians and the quality of care and services provided by the healthcare system (PHAC, 2010).

5.5 FUTURE RESEARCH DIRECTIONS

Future research regarding the health outcomes of OHI for snackable videos should investigate the outcomes outlined in the Outlines of Online Consumer Health Information Model as information-related health services outcomes, such as those affecting the healthcare professionals' practice, as well as those affecting the healthcare system. Broader social OHI outcomes should also be investigations for members of the parents' entourage, including family, friends, other parents, neighbours and other members of their physical or online communities. As indicated by the participants' intention to share the videos or the videos' contents with their entourage, further research is needed to assess outcomes for this population. In addition, a follow-up should be conducted with parents as well as their entourage to assess if the knowledge acquisition and intention to act resulted in a change in attitudes and related behaviours.

A contrast between the perceived health outcomes of OHI for snackable videos for mothers and fathers will further provide insights into how OHI is used and shared. Though men and women use the internet at similar rates, a greater proportion of women conduct OHI searches, including proxy OHI searches, relative to men (El Sherif et al., 2022; Statistics Canada, 2017, 2021b). This persists across age groups and levels of educational attainment (Statistics Canada, 2021b). Understanding how the information needs or motivations to conduct OHI searchers differ for men will allow N&G, as well as other publishers of OHI, to be able to grow their audience,

providing relevant and accessible content, and helping to battle the growing burden of misinformation on individual health, and on the healthcare system.

Accessibility should continue to be a topic of interest when discussing populations characterized by low literacy and low HL. The guide by Ruel and colleagues (2018), *Communiquer pour tous: Guide pour une information accessible,* includes a list of features of accessible written information, both print and web. However, these features may alter slightly with video content, therefore adjustments or additional features may be required in order to make accessible video content. Future research should investigate barriers to access of informative videos, specifically those designed as a health intervention for individuals and communities with low HL.

6. CONCLUSION

This qualitative descriptive study was conducted with key informants to identify health outcomes and areas for improvement for a novel web-based health intervention, the "snackable" video. The potential for these interventions began with librarian content and quickly transitioned to brief videos containing health information which were primarily used in physicians' waiting rooms. Naître et grandir has used the snackable format to create an overview of parenting topics for parents of children aged 0-8 years old. This study found that N&G snackable videos have a perceived impact on individual-level health outcomes including the cognitive impact of OHI, the use of OHI, and health and health care related OHI outcomes, all of which are preceded by the situational relevance of OHI. Although no new outcomes emerged, the Outcomes of Online Consumer Health Information Model captured parents' perceived outcomes on health and wellbeing of snackable videos for themselves, as well as for their children. Furthermore, participants made recommendations which will improve the impact of these snackable health videos by increasing accessibility, allowing them to be used by a greater proportion of the population, including parents with low HL.

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APPENDICES

APPENDIX I. RECRUITMENT EMAIL

Bonjour,

J'espère que vous vous portez bien.

Vous avez récemment accepté d'être contacté(e) pour être invité(e) à participer à une recherche sur les effets de l'utilisation de l'information fournie par les vidéos textuelles Naître et grandir. Cette recherche a été approuvée par le Bureau d'éthique de la Faculté de médecine de l'Université McGill.

Vous trouverez ci-joint un formulaire de consentement qui détaille cette recherche ainsi que les implications de votre participation. Veuillez le lire attentivement et n'hésitez pas à me contacter si vous avez des questions.

Si vous envisagez de participer à cette recherche, merci de répondre à ce courriel et de proposer une date et une heure à votre convenance pour une entrevue qui durera environ 1 heure.

Je vous expliquerai cette recherche, lirai le formulaire de consentement et répondrai à vos questions. Si vous acceptez de participer, nous ferons l'entrevue de recherche.

En espérant que vous porterez une attention bienveillante à cette invitation, je vous prie d'agréer l'expression de mes sentiments les plus dévoués.

Raphaela Nikolopoulos
Étudiante à la maitrise
Département de médecine familiale
Université McGill

Courriel : raphaela.nikolopoulos@mail.mcgill.ca

APPENDIX II. CONSENT FORM

FORMULAIRE D'INFORMATION ET DE CONSENTEMENT

Description des effets de l'utilisation des informations des vidéos textuelles *Naître et grandir*

IDENTIFICATION

Chercheure: Raphaela Nikolopoulos, Étudiante à la maitrise
Département de médecine familiale, Université McGill
raphaela.nikolopoulos@mail.mcgill.ca

Superviseurs : Chercheur principal désigné
Pierre Pluye MD PhD, professeur titulaire
Département de médecine familiale, Université McGill
pierre.pluye@mcgill.ca
(514) 398-8483

Co-superviseure
Tracie Barnett PhD, professeure agrégée
Département de médecine familiale, Université McGill
tracie. barnett@mcgill.ca

BUT GÉNÉRAL DE LA RECHERCHE

Le but général de l'étude est de décrire les effets des informations des vidéos textuelles *Naître et grandir* du point de vue des parents. Avec les commentaires recueillis auprès des parents de jeunes enfants, nous produirons une description approfondie des effets de l'utilisation de l'information disponible trouvée dans les vidéos textuelles *Naître et grandir*.

INTRODUCTION

Naitre et grandir (N&G) est entre autres un site Internet qui s'adresse aux parents de jeunes enfants. N&G est financé par la Fondation Lucie et André Chagnon, une organisation à but non lucratif qui a pour mission de prévenir la pauvreté. N&G offre aux parents des informations gratuites, indépendantes, fiables et validées scientifiquement pour les soutenir dans leur rôle parental.

La vidéo textuelle est un format vidéo émergent dans lequel un texte informatif est affiché sur un écran. N&G a récemment inclus des vidéos textuelles dans sa plateforme en ligne, aux côtés des vidéos traditionnelles, des pages web et des pages web audio. Il s'agit de la première étude sur les résultats des vidéos textuelles pour les parents de jeunes enfants.

PROCÉDURE

Vous participerez à une entrevue individuelle d'environ une (1) heure. La date et l'heure de l'entrevue sera convenue avec vous. Durant l'entrevue, un chercheur de notre équipe vous demandera de regarder une vidéo textuelle de N&G et de discuter les effets perçus en ce qui

concerne la santé individuelle ou sociale. L'entrevue portera sur ce nouveau format vidéo et sur sa comparaison avec la page web et la page web audio correspondante.

AVANTAGES ET RISQUES
Votre participation permettra de mieux comprendre les effets de l'informations des vidéos textuelles N&G. Il y a peu ou pas de risque à participer à cette étude. Notre équipe de recherche remplacera votre nom avec un pseudonyme et retirera toute information susceptible de vous identifier dans vos réponses aux questions de l'entrevue.

PARTICIPATION VOLONTAIRE
Votre participation à ce projet est totalement volontaire. Vous pouvez décider de ne pas participer ou de vous retirer de l'étude à n'importe quel moment sans aucune conséquence.

COMPENSATION FINANCIÈRE
Vous recevrez une compensation de 30$ par virement Interac pour votre participation à cette étude lors d'une entrevue par vidéoconférence. Vous pouvez vous retire de l'étude à tout moment sans perdre la compensation associée à la participation à cette étude.

CONFIDENTIALITÉ
Les informations que vous nous donnerez resteront confidentielles. Les résultats de l'étude pourront être publiés ou communiqués lors de présentations scientifiques (des pseudonymes seront utilisés et aucune information pouvant vous identifier ne sera dévoilée). Les enregistrements, leur transcription, ainsi que les formulaires de consentement seront conservés sur l'ordinateur de la chercheure, dans un dossier protégé par un mot de passe. Ce dossier est accessible uniquement à la chercheuse et à ses superviseurs. Toute copie papier sera détruite après l'analyse des résultats. Les documents numériques confidentiels resteront dans un fichier du Dr Pluye, protégé par un mot de passe, et seront détruits sept (7) ans après la fin de l'étude.

DES QUESTIONS SUR LE PROJET OU SUR VOS DROITS ?
Vous pouvez contacter Raphaela Nikolopoulos (raphaela.nikolopoulos@mail.mcgill.ca) ou Dr.Pierre Pluye (pierre.pluye@mcgill.ca) si vous avez des questions additionnelles sur le projet. Pour toute question concernant les droits des participants à la recherche, veuillez contacter le Bureau d'éthique de la recherche de l'Université McGill (Mme Ilde Lepore : ilde.lepore@mcgill.ca ((514) 398-8302). Cette étude a été approuvée par le Bureau d'éthique de la recherche de l'Université McGill ((514) 398-3124).

REMERCIEMENTS
Nous sommes très reconnaissants de votre participation à notre étude et nous tenons à vous en remercier.

CONCLUSION
Je confirme que l'étude et le formulaire de consentement m'ont été expliqués et que j'ai eu l'occasion de poser des questions. J'ai eu suffisamment de temps pour prendre une décision quant à ma participation. Je sais avec qui je dois communiquer si j'ai d'autres questions. J'accepte de participer à cette étude. Je confirme que je ne renonce à aucun des droits que me confère la loi en signant ce formulaire de consentement.

Je comprends que mon consentement verbal sera enregistré. Je déclarerai ensuite par courriel que « Cette recherche m'a été expliquée et le formulaire de consentement m’a été lu et on me l'a expliqué. On a répondu à mes questions de manière satisfaisante. Je consens à participer à cette recherche. »

APPENDIX III. HEALTH OUTCOMES OF ONLINE CONSUMER HEALTH INFORMATION MODEL

Five Levels of Outcomes With Sub-Outcomes	
1.	Situational relevance of OHI
2.	Cognitive Impact of OHI
2.1	Impact on learning
2.2	Impact on memory
2.3	Impact on motivation to learn
2.4	Impact on satisfaction with information
2.5	Impact on safety
2.6	Impact on worry
3	Use of OHI
3.1	Use for decision-making
3.2	Use for confirmation
3.3	Use for change of health management
3.4	Use for discussion with a health professional
3.5	Use for providing social support
4.	Health and health care related OHI outcomes
4.1	Outcome for satisfaction with care
4.2	Outcome for relationship with health professional
4.3	Outcome for involvement
4.4	Outcome for problem management
4.5	Outcome for prevention
4.6	Outcome for health improvement or worsening
5	OHI outcomes affecting health care services
5.1	Health professionals' outcomes
5.2	Organizational outcomes

APPENDIX IV. INTERVIEW GUIDE

Merci beaucoup de votre participation à cette étude sur les effets des vidéos textuelles de Naître et Grandir. J'aimerais me présenter brièvement. Je m'appelle Raphaela, et je suis étudiante à la maîtrise à l'Université McGill sous la supervision du Dr Pierre Pluye et du Dr Tracie Barnett. Des recherches antérieures en collaboration avec Naître et Grandir ont été faites sur les effets de l'information fournie par Naitre et grandir aux parents de jeunes enfants, comme vous.

Aujourd'hui, nous aimerions explorer votre point de vue sur les effets d'un nouveau type de vidéo proposé par Naître et Grandir, la vidéo textuelle. Tout ce que vous avez à dire sur ces vidéos sera extrêmement bénéfique et aidera les futurs utilisateurs et fournisseurs de ces vidéos. Je vais enregistrer la suite de cette entrevue. L'enregistrement est confidentiel. Il n'y a pas de bonnes ou de mauvaises réponses. Je lirai une phrase et vous pourrez prendre le temps de réfléchir avant de répondre.

- Avez-vous des questions avant que je commence l'enregistrement?

BESOINS D'INFORMATION ET COMPORTEMENT INFORMATIONNEL

Racontez-moi brièvement comment vous trouvez et utilisez les informations ou conseils dont vous avez besoin pour votre/vos enfant(s)? Par exemple, de l'information concernant le développement, l'éducation et la santé de votre/vos enfant(s).

- Avez-vous des sources d'information préférées (par exemple TV, radio, bibliothèques, revues, journaux, livres, amis et famille, école, internet, organismes communautaires, 8-1-1, CLSC, cliniques médicales, etc.)?
- Qui sont vos proches (par exemple, famille, amis et voisins)?
    - Est-ce que vous pouvez compter sur eux en cas d'urgence?

Dites-moi quelles informations vous trouvez sur l'internet (par exemple sur le site web Naître et grandir ou d'autres sites web, sur des forums de discussions, etc.).

- Que faites-vous ensuite avec ces informations pour votre/vos enfant(s)?
    - Comment cela vous sert dans votre vie de parent?

VIDÉO TEXTUELLE NAÎTRE ET GRANDIR

Je vais maintenant vous montrer 10 titres de vidéos textuelles Naître et grandir et vous choisirez celui qui, selon vous, correspond le mieux à vos besoins actuels en tant que parent. Vous regarderez cette courte vidéo (d'une durée d'environ 1 minute) et nous poursuivrons l'entrevue. *[visionnement de la vidéo textuelle N&G choisie]*

Ces premières questions nous aideront à mieux comprendre la pertinence de cette vidéo.

- Est-ce que cette vidéo répond à vos besoins où à ceux de votre/vos enfant(s)?
    - Si oui, dites-moi comment.

Impact cognitif de l'information.

- La vidéo a-t-elle validé ce que vous saviez déjà?

    - Si oui, dites-moi ce qui a été validé.
- Avez-vous appris quelque chose de nouveau avec cette vidéo?
    - Si oui, dites-moi ce que vous avez appris.
- Est-ce que la vidéo vous donne envie de chercher d'autres informations sur ce sujet?
    - Si oui, racontez-moi comment vous chercheriez d'autres informations.

Utilisation de l'information

- Avez-vous l'intention d'utiliser les informations fournies par la vidéo?
    - Si oui, racontez-moi comment, par exemple pour mieux comprendre ou faire quelque chose.
- Avez-vous l'intention de partager ou discuter la vidéo (ou son contenu) avec d'autres personnes?
    - Si oui, dites-moi avec qui et pourquoi.

Effets de l'utilisation de l'information

- Est-ce que les informations fournies par cette vidéo peuvent contribuer à améliorer votre bien-être ou votre santé, ou le développement, l'éducation, le bien-être et la santé de votre/vos enfant(s)?
    - Si oui, dites-moi comment.
- Est-ce que cette vidéo peut diminuer vos soucis comme parent?
    - Si oui, racontez-moi comment.
- Est-ce que cette vidéo peut prévenir un problème ou éviter qu'il s'aggrave?
    - Si oui, dites-moi comment.
- Est-ce que cette vidéo peut vous aider à décider quoi faire avec quelqu'un d'autre?
    - Si oui, racontez-moi comment.

Exploration de nouveaux effets

- Est-ce que vous pensez à d'autres effets de l'utilisation des informations fournies par cette vidéo?
    - Si oui, dites-moi ce que vous ferez avec ces informations.

Selon vous, est-ce que cette vidéo peut avoir des conséquences négatives?

- Si oui, racontez-moi lesquelles.

Avantages et inconvénients (utilisabilité)

- Globalement, est-ce que vous êtes satisfait(e) de cette vidéo?
    - Si non, dites-moi pourquoi.
- Qu'est-ce que vous avez le plus aimé dans ce format de vidéo (vidéo textuelle)?
- Est-ce que ce format de vidéo a des avantages comparés à une vidéo traditionnelle, ou un podcast, ou une page web, ou l'écoute audio d'une page web?
    - Si oui, quels sont ces avantages?
- Qu'est-ce que vous avez le moins aimé dans ce format de vidéo (vidéo textuelle)?

Les questions suivantes portent sur le format de la vidéo (utilisabilité).

- Est-ce que la vitesse des mots est adéquate?
    - Si non, dites-moi pourquoi.

- Est-ce que c'est facile de comprendre le contenu de cette vidéo?
    - Si non, dites-moi pourquoi.
- Est-ce que cette vidéo fournit des informations complètes?
    - Si non, dites-moi quel type d'information manque.
- Est-ce que cette vidéo est facile à utiliser?
    - Si non, dites-moi pourquoi.
- Avez-vous l'impression que la vidéo s'adresse à vous dans votre rôle parental en tant que mère/père?
    - Si oui, comment?
    - Si non, quels changements peut-on apporter pour que vous vous sentiez plus inclus?

La dernière série de questions demande uniquement des réponses simples. Elle porte sur l'information en santé et vos ressources.

NIVEAU DE LITTÉRATIE EN SANTÉ

Indiquez sur une échelle de 1 à 4 (1 = « très facile »; 2 = « facile »; 3 = « difficile »; et « 4 = très difficile ») à quel point il est facile pour vous de:

1- trouver des informations sur les traitements des maladies qui vous concernent?
2- savoir où obtenir l'aide d'un professionnel quand vous êtes malade (par ex., médecin, infirmier, pharmacien ou psychologue, entre autres)?
3- comprendre ce qu'un médecin vous dit?
4- comprendre les consignes de votre médecin ou pharmacien sur la manière de prendre vos médicaments?
5- savoir quand il serait utile d'avoir l'avis d'un autre médecin?
6- utiliser les informations que le médecin vous donne pour prendre des décisions concernant votre maladie?
7- suivre les consignes de votre médecin ou pharmacien?
8- trouver des informations sur comment faire en cas de problème psychologique (par ex., anxiété, dépression ou stress entre autres)?
9- comprendre les mises en gardes concernant l'impact sur la santé de certains comportements comme fumer, ne pas faire assez d'exercice et boire trop?
10- comprendre les informations sur les dépistages et examens recommandés (par ex., dépistage du cancer colorectal ou test de glycémie entre autres)?
11- évaluer la fiabilité des informations disponibles dans les médias sur ce qui est dangereux pour la santé (par ex., journaux, télévision ou internet)?
12- savoir comment vous protéger des maladies à partir des informations disponibles dans les médias (par ex., journaux, télévision ou internet)?
13- vous renseigner sur les activités bénéfiques pour votre santé et votre bien être (par ex., relaxation, activité physique ou yoga, entre autres)?
14- comprendre les conseils de votre famille ou de vos amis en matière de santé?
15- comprendre les informations disponibles dans les médias pour être en meilleure santé?
16- identifier quels sont les comportements de votre vie de tous les jours qui ont un impact sur votre santé?

INFORMATIONS SOCIO-DÉMOGRAPHIQUES

Quelle scolarité avez-vous complété?

- Aucun diplôme
- Diplôme d'études secondaires
- Diplôme d'une école de métier
- Diplôme collégial
- Certificat universitaire
- Baccalauréat
- Diplôme universitaire supérieur au baccalauréat
- Je préfère ne pas répondre

Quelle est votre occupation actuelle ? _____

Quel est votre type de logement?

- Maison
- Appartement
- Je préfère ne pas répondre

Êtes-vous locataire ou propriétaire de votre logement?

- Locataire
- Propriétaire
- Je préfère ne pas répondre

Quel est votre revenu familial annuel (somme totale des revenus disponibles pour la famille avant impôts) ?

- 0 à moins de 20 000 $
- 20 000 $ à moins de 40 000 $
- 40 000 $ à moins de 60 000 $
- 60 000 $ ou plus
- Je préfère ne pas répondre

Y-a-t-il des périodes où vous craignez de manquer de ressources financières pour vous ou votre famille?

- Oui
- Non
- Je préfère ne pas répondre

Quels sont les 3 premiers caractères de votre code postal ? _ _ _

- Je préfère ne pas répondre

Quelles sont les langues parlées :

- Avec vos enfants ? _____
- À la maison ? _____
- Au travail ? _____
- Je préfère ne pas répondre

CONCLUSION
J’ai maintenant terminé de vous poser les questions que j'avais prévu de vous demander aujourd'hui.

- Avez-vous des choses à ajouter à ce que nous avons discuté pendant l'entrevue?
- Avez-vous des questions à me poser ou des commentaires que vous aimeriez partager au sujet de Naître et Grandir ou de votre participation à cette étude?

Si vous avez d'autres questions ou commentaires ou si vous pensez à d'autres effets de l'utilisation des vidéos textuelles Naître et Grandir, n'hésitez pas à m'envoyer un courriel (raphaela.nikolopoulos@mail.mcgill.ca). Je vous remercie encore une fois d’avoir participé à cette entrevue. Votre contribution nous aidera à mieux comprendre les effets de ces vidéos textuelles.

APPENDIX V. PROTOCOL ETHICS APPROVAL

McGill | Faculty of Medicine and Health Sciences | Faculté de médecine et des sciences de la santé

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Montreal, QC H3G 1Y6

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T: (514) 398-3124

August 2, 2022

Dr. Pierre Pluye
Department of Family Medicine
5858 Côte-des-Neiges, 3rd Floor, Suite 300
Montreal QC H3S 1Z1

eRAP/Info-Ed File Number: **22-07-092** **IRB Internal Study Number: A08-E33-22B**

Study Title: *Outcomes of literacy-oriented text-based videos for parents of young children with a low level of health literacy: A qualitative interpretive study [Protocol]*

McGill Principal Investigator: Pierre Pluye

Student Investigator: Raphaela Nikolopoulos

Dear Professor Pluye,

Thank you for submitting the above-referenced study for an ethics review, on behalf of your Master's student, Raphaela Nikolopoulos.

As this study involves no more than minimal risk, and in accordance with Articles 2.9 and 6.12 of the 2nd Edition of the Canadian Tri-Council Policy Statement of Ethical Conduct for Research Involving Humans (TCPS 2 2018) and U.S. Title 45 CFR 46, Section 110 (b), paragraph (1), we are pleased to inform you that an expedited/delegated review was conducted and ethics approval for the study is provided 02-Aug-2022, valid until **01-Aug-2023**. The study proposal will be presented for corroborative approval at the next meeting of the Committee.

The following documents were reviewed and approved:

- Research protocol and study instruments, July 28, 2022;
- Consent form, July 28, 2022

The Faculty of Medicine and Health Sciences Institutional Review Board (IRB) is a registered University Research Ethics Board working under the published guidelines of the Tri-Council Policy Statement 2, in compliance with the Cadre de référence en recherche avec des participants humains (MSSS, 2020), and the Food and Drugs Act (17 June 2001); and acts in accordance with the U.S. Code of Federal Regulations that govern research on human subjects (**FWA 00004545**). The IRB working procedures are consistent with internationally accepted principles of good clinical practice.

The Principal Investigator is required to immediately notify the Institutional Review Board Office, via amendment or progress report, of:

- Any significant changes to the research project and the reason for that change, including an indication of ethical implications (if any);
- Serious Adverse Effects experienced by participants and the action taken to address those effects;
- Any other unforeseen events or unanticipated developments that merit notification;
- The inability of the Principal Investigator to continue in her/his role, or any other change in research personnel involved in the project;
- A delay of more than 12 months in the commencement of the research project, and;
- Termination or closure of the research project.

The Principal Investigator is required to submit an annual progress report (continuing review application) on the anniversary of the date of the initial approval (or see the date of expiration).

The Faculty of Medicine and Health Sciences IRB may conduct an audit of the research project at any time.

If the research project involves multiple study sites, the Principal Investigator is required to report all IRB approvals and approved study documents to the appropriate Research Ethics Office (REO) or delegated authority for the participating study sites. Appropriate authorization from each study site must be obtained before the study recruitment and/or testing can begin at that site. Research funds linked to this research project may be withheld and/or the study data may be revoked if the Principal Investigator fails to comply with this requirement. A copy of the study site authorization should be submitted the IRB Office.

It is the Principal Investigator's responsibility to ensure that all researchers associated with this project are aware of the conditions of approval and which documents have been approved.

The McGill IRB wishes you and your colleagues every success in your research.

Sincerely,

Roberta Palmour, PhD
Chair
Institutional Review Board

cc: Sylvain Baillet, PhD, Associate Dean, Research
Raphaela Nikolopoulos
A08-E33-22B (22-07-092)

APPENDIX VI. PROTOCOL AMENDMENT ETHICS APPROVAL

McGill | Faculty of Medicine and Health Sciences | Faculté de médecine et des sciences de la santé

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Tél/Tel: (514) 398-3124

April 4, 2023

Dr. Pierre Pluye
Department of Family Medicine
5858 Côte-des-Neiges, 3rd Floor, Suite 300
Montreal QC H3S 1Z1

RE: IRB Study Number: A08-E33-22B (22-07-092)
Outcomes of literacy-oriented text-based videos for parents of young children with a low level of health literacy: A qualitative interpretive study [Protocol]

Dear Dr. Pluye,

Thank you for submitting an amendment to the above-referenced study.

At a meeting of the IRB on April 3, 2023, the following amendment received a full Board review and approval:

- Amendment notification dated February 22, 2023
- Addition of small group interviews when suggested by partner community organizations
- Revised protocol February 22, 2023

Investigators are reminded of the requirement to report all McGill IRB approved study documents to the Research Ethics Offices (REOs) of participating study sites, if applicable. Please contact the individual REOs for instructions on how to proceed. Research funds may be withheld and / or the study's data may be revoked for failing to comply with this requirement.

Kind regards,

Roberta Palmour, PhD
Chair
Institutional Review Board

cc: Raphaela Nikolopoulos
A08-E33-22B (22-07-092)

1