# Parents' experiences regarding the use of papoose boards on their children during dental services

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# DEDICATION

"For the Brother who paved the path before me upon whose shoulders I stand."

I dedicate my thesis work to my life coach, my brother Vivek Malik. This journey would never have been dreamt of, let alone begun, if it wasn't for you. As my older brother, you've been a great role model to me, and, as your younger sister, I couldn't have asked for a better sibling. We've always said how we share this unconventional bond between us, and I think that's what has made our relationship so special. It's hard to describe our relationship in just a few sentences, but I know you know exactly what I'm talking about when I say "unconventional". I still remember how as a little girl, due to our big age gap people sometimes called you my father, and how we used to laugh at that. But that certainly didn't mean you needed to get into the shoes of one, while you did exactly the same.

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# CONTRIBUTION OF AUTHORS

The team members' contributions span from protocol conception, design, analyses, interpretation and writing, to specific areas of expertise. Dr. Christophe Bedos (supervisor) and Dr. Félix Girard (co-supervisor) were involved in all the stages of the research. Dr. Richard Hovey was involved in the analysis and will be helping in publication. Dr. Beatriz Ferraz dos Santos was co-ordinating the research by guiding Pooja Malik in sample recruitment in the hospital and will be helping in knowledge translation and publications. Pooja Malik was involved in data collection, analysis, writing all the sections of thesis, and publication.

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# ABSTRACT

Objectives. Various pharmacological and non-pharmacological behaviour management techniques (BMTs) are available to increase children's cooperation during the dental treatment. The papoose board, a non-pharmacological BMT, is a kind of physical restraint that is attached to the patient's body to avoid sudden body movements. The literature suggests that this technique has been controversial in dentistry, due to its reported harmful consequences, but it is still widely used in many parts of the world, including Canada. To the best of our knowledge, there is no qualitative research to provide us insight of parents' experiences. Thus, this study intended to understand the lived experiences of parents regarding the papoose boards used on their child during the dental treatment.

Methods. Interpretive phenomenology is the methodology adopted as it enabled us to elicit the perceptions of the parents based on their experiences about the use of a papoose board on their child. We interviewed parents of children treated with papoose in the Montreal Children's Hospital (MCH). The MCH was chosen to be our research partner because its dental clinic uses papoose boards on a daily basis. We adopted a purposeful sampling technique to select seven participants. The method for data collection was in-depth, semi-structured interviews, which were audio-recorded, transcribed verbatim, debriefed with research partners and interpretively analyzed.

Results. We identified three main findings in our study. First, parents experiences regarding the papoose boards. Some parents were in favour of using papoose boards and considered it necessary during the treatment, whereas others were completely against it and described its use as "betraying the trust" of their children. Second, factors guiding the decision-making process. The participants who communicated and discussed their concerns regarding the use of papoose boards with their dentists were relatively satisfied as compared to those who could not communicate much. Providing sufficient time for decision-making was an important factor that affected the level of acceptance of the papoose boards by the parents. Thirdly, confrontation of expectations of the parents due to their past experiences. The parents that recently immigrated to

Canada compared the dental strategies with those of their country of origin. They felt that the dentists in Canada are highly concerned of profits or tended to be more business minded and use papoose to treat more patients in less time.

Conclusion. These findings will provide our partners from MCH and other dentists an enhanced understanding of the experience of parents related to the papoose boards. We hope it will help them developing strategies to better treat children, such as having detailed communication regarding the papoose boards with the parents, giving them time for decision-making, and keeping the initial visit exploratory to familiarize the family with the papoose boards and establish rapport with the children.

# RÉSUMÉ

Objectifs. Diverses techniques de gestion du comportement pharmacologique et non-pharmacologique sont disponibles pour augmenter la coopération des enfants pendant le traitement dentaire. Le *papoose board*, technique de gestion du comportement non-pharmacologique, est une planche d'immobilisation en momie qui limite ou empêche les mouvements corporels soudains des patients. La littérature suggère que cette technique, controversée en dentisterie en raison de ses conséquences dangereuses, reste encore largement utilisée dans de nombreuses parties du monde, y compris au Canada. À notre connaissance, il n'y a pas de recherche qualitative s'intéressant expériences des parents. Ainsi, cette étude visait à comprendre les expériences vécues par les parents en ce qui concerne les *papoose boards* utilisées sur leur enfant pendant le traitement dentaire.

Méthodes. La phénoménologie interprétative est la méthodologie que nous avons adopté car elle nous permettait de recueillir les expériences vécues des parents concernant l'utilisation de *papoose board* sur leur enfant. Nous avons ainsi interviewé des parents d'enfants traités avec le *papoose* à l'Hôpital de Montréal pour Enfants. Cet hôpital a été choisi comme partenaire de recherche parce que sa clinique dentaire utilise des le *papoose* quotidiennement. Nous avons adopté une technique d'échantillonnage ciblée pour sélectionner sept participants. La méthode de collecte de données consistait en des entrevues semi-structurées, audio-enregistrées, la transcription des verbatim, le débriefing avec les partenaires de recherche et l'analyse interprétative.

Résultats. Nous avons identifié trois principaux résultats dans notre étude. Tout d'abord, les expériences des parents concernant les *papooses*. Certains parents étaient en faveur de son utilisation et le jugeaient nécessaire pendant le traitement, alors que d'autres étaient complètement contre et décrivaient son utilisation comme une "trahison de la confiance" envers leur enfant. Deuxièmement, les facteurs qui influent le processus de prise de décision. Les participants qui avaient communiqué et discuté de leurs préoccupations concernant l'utilisation des *papooses* avec le dentiste étaient relativement satisfaits en comparaison aux autres parents.

Prévoir suffisamment de temps pour la prise de décision était donc un facteur important qui influait sur le niveau d'acceptation du *papoose* par les parents. Troisièmement, les attentes des parents en raison de leurs expériences passées. Les parents qui avaient récemment immigré au Canada comparaient les stratégies dentaires avec celles de leur pays d'origine. Ils estimaient que les dentistes au Canada étaient soucieux des leurs « affaires », et utilisaient le *papoose* pour traiter plus de patients en moins de temps.

Conclusion. Ces résultats fourniront à nos partenaires de l'hôpital et à d'autres dentistes une meilleure compréhension de l'expérience des parents en ce qui a trait aux *papoose boards*. Nous espérons que cela les aidera à développer des stratégies pour mieux soigner les enfants, telles que communiquer avec les parents, leur donner le temps de prendre des décisions, et garder la visite initiale exploratoire pour familiariser la famille avec les *papoose* et établir un rapport avec les enfants.

# 1. Introduction

"Open your mouth wide," well surely, 'cos I don't have any intention of following your orders Mr. Dentist. I shook my head in protest as my mouth was shut tighter than a clam. I still remember the frustration on my dentist's face and his tense body as I did that. I refused to follow the instructions of my dentist. I was seven years old. Why wouldn't I open? He was holding a gigantic, dribbling needle two inches from my eyes and telling me to open, so he could "just look at my teeth." Yeah, I wasn't falling for it. And honestly that's the trauma of all of it. Whoever thought it is easy for a child to visit dentist, let alone be tied with a papoose board. My childhood experience of visiting dentist was not all that great but just the thought of the papoose boards makes me wince each time I hear of that and its usage on kids. Being a dentist mum, I completely refuse to imagine how can my little self, my baby girl be treated that way or any other child for that matter.

The inspiration for conducting this study originated from my dental problems as a child and my concern for children as a paediatric dentist. Professionally, I feel we fail the whole purpose of the treatment if before bringing smiles we bring such anxiety on little faces. Personally, I have always enjoyed children's company, holding conversations with them regarding their dental problems and trying to understand its importance in their lives. This helped me to develop insight into their perspectives of dentistry and their problems.

The papoose boards filled my mind with the thoughts that made me uncomfortable, like how the children felt being restrained in the moment of distress and unable to defend themselves. As a parent this feeling became even stronger. This developed curiosity in my mind about what must be the experiences of other parents regarding the use of papoose boards on their children. During my master's at McGill under the guidance of my supervisor, I got the opportunity to search and find the answer to this question. Our discussion regarding the topic encouraged me to do extant research regarding the use of various behaviour management techniques (BMTs) used in the dentistry. After reviewing the literature, we realised the lack of qualitative studies to describe the experiences of parents regarding the papoose boards. Hence, we came to the conclusion to start with this research.

The purpose of this study is to describe and understand the experiences of parents whose children had been treated using the papoose boards. The papoose boards are a kind of non-pharmacological BMT. Behaviour management is the most important step towards successful dental treatment of the child patient. Since children exhibit a broad range of physical, intellectual, emotional, and social development and a diversity of attitudes and temperament, it is important that the dentists have a wide range of BMTs to meet their needs. BMTs are a continuum of interactions involving the dentist and dental team, the patients, and the parents. Their goals are to promote the child's positive dental attitude. The American Academy of Paediatric Dentistry (AAPD) mentioned that BMTs should never be used as a punishment for (misbehaviour, power assertion, or use of any strategy that hurts, shames, or derogates a patient) (1). They also warn about the potential harms of using the papoose boards and indicate to use it only if no other option is available. There are alternative techniques that can be used alone or in conjunction with other techniques, and rule out the need for using the papoose boards (2). In spite of the fact they have always been controversial and considered unethical (3) in dentistry, they are still widely used in North America (4). Through our study, we hope to improve the understanding of dental health professionals regarding the experiences of parents with the papoose boards, and motivate them to develop various treatment strategies.

# 2. Literature review

## 2.1. Dentist and patient relationship in the decision-making process

During the last few decades, there has been a struggle between patients' and doctors' values in medical and dental care (5). The quest for identifying their respective roles in treatment decision-making raised the question: "What should be the ideal doctor-patient relationship"? Recently, there has been a considerable shift in the dentist-patient relationship, especially with the child patient (6). Before this shift, dentists tended to have a paternalistic approach, and patients had to accept and trust their dentist's decisions (5). Dentists acted as guardians of their patients: they gave them selected information in such a way that the latters accepted the treatment plan considered best by the professionals (5). In other words: "the dentists believe they know what patients should want, rather than finding out what they do want" (7). Hence, a strenuous relationship between the doctor and the patient may result in patient dissatisfaction and finally non-adhesion to the treatment (7, 8). The reasons for the patient's dissatisfaction are often a lack of communication with the dentist and unnecessary treatments advised by the latter (7). Since the shift we mentioned earlier, the dentist-patient relationship has been changing towards patient-centered approaches (4). Because of a better access to educational material online or TV commercials, patients' awareness has increased regarding their legal rights and knowledge about treatment options (6).

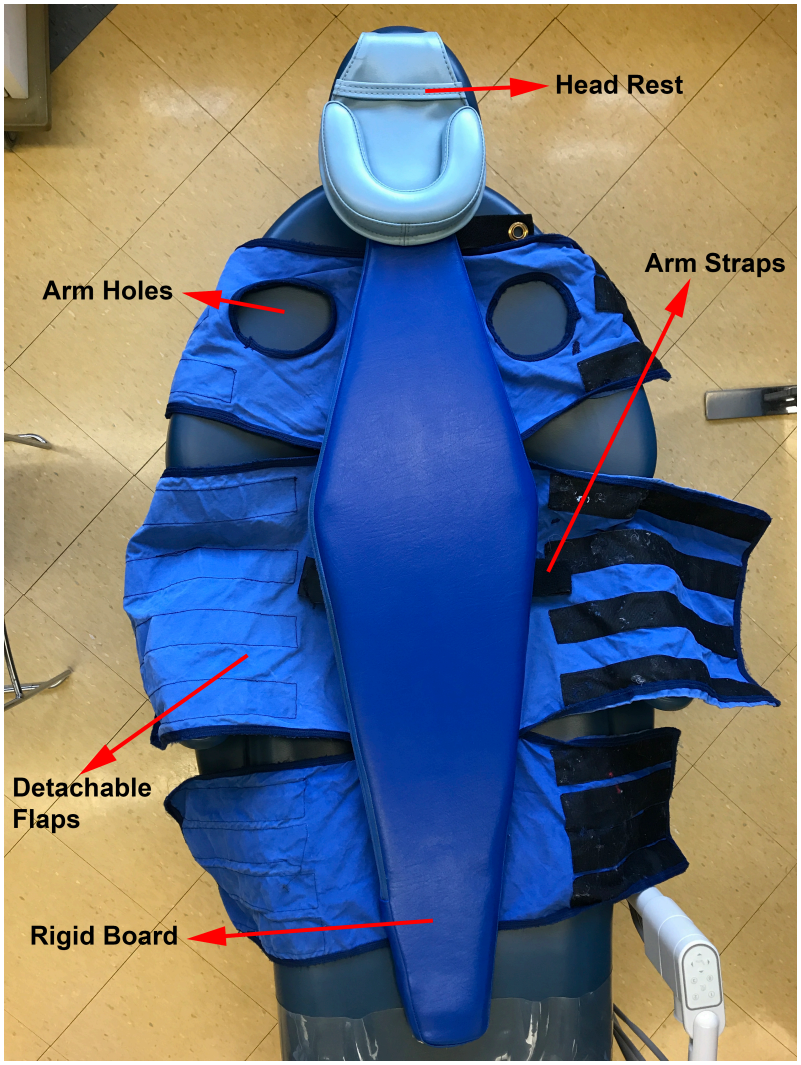
## 2.2. Papoose boards

### 2.2.1. Definition of papoose boards

The papoose board is a physical restraint used to stabilize child patients during dental treatments (Fig. 1 and 2). The United States federal law defines physical restraint as "any manual method, or physical or mechanical device, or material or equipment attached or adjacent to the resident's body, which the individual cannot remove easily and restricts freedom of movement or normal access to one's body" (9). The papoose board is considered as an invasive non-pharmacological behaviour management technique (BMT) (10). It is available in different sizes and shapes according to the age of the child (11).

**Figure 1. Papoose board wrapped around dummy patient**

**Figure 2. Papoose board and its accessories**




## 2.2.2. Guidelines on protective stabilization devices like papoose boards

Various guidelines have been proposed in the past few decades by researchers and dental associations to guide dental professionals using protective stabilization for behaviour management of their patient. They provide information on how to use these devices effectively and cautiously, as we will explain in the next paragraphs (1, 12-16).

## Recommendations for using papoose boards

### 2.2.2.1. Indications and contraindications

According to the American Academy of Paediatric Dentistry's (AAPD) guidelines, physical restraints like papoose boards are indicated for delivering dental services to behaviourally 'difficult and resistive' patients (1). They are used to treat children with extensive dental needs who are uncooperative, or become uncooperative in the middle of the treatment, or require emergency treatment (1). Papoose boards can as well be applied to adults who cannot cooperate due to mental or physical disability (9).

The use of papoose boards is contraindicated for cooperative patients without sedation, patients with extensive elective treatment needs, or patients with previous poor experience with the papoose boards like trauma, increased anxiety or dental fear; it is also contra-indicated when it is not safe to use it due to the medical, physical or psychological condition of the patient (1). Researchers have also advised to not use restraints as a punishment (6) or in offensive manners (4), for the comfort of the practitioner, or to reduce the duration of an appointment (17).

### 2.2.2.2. Associated risks

The AAPD underlined the potential harms of using papoose boards (1), which could be both physical and psychological (18) and have short- and long-term negative consequences. As for the short-term, the consequences could range from minor physical trauma in form of bruises or scratches (1), to more serious problems like airway insufficiency if not handled cautiously with continuous monitoring (11). Negative physical consequences of using papoose boards have been reported in the New-York Times, March 19$^{th}$, 2000 when a five years old child suffered from a femur fracture due to the use of restraints (19). The Hartford Courant, a Connecticut newspaper, also published a series of articles in 1998 reporting the inappropriate use of restraints on psychiatric or developmentally disabled patients (20). Their investigative team reported 142 deaths from 1988-1998 due to the use of some sort of restraint. The reasons cited for these deaths were either misuse or overuse of the restraints. More recently, a research concluded that papoose boards could create psychological trauma and ultimately damage the functioning and development of the brain (21).

### 2.2.2.3. Education and techniques

Papoose boards are one among many devices used by dental professionals to stabilize children during dental treatment. According to the AAPD guidelines, dentists should examine the physical, medical and emotional conditions of the children before making a decision to use a papoose board. Furthermore, these devices should be used in a sequential way i.e. starting from the least restrictive towards the most restrictive (16). In other words, clinicians should start with the device that minimally restricts the body movements (like pedi-wraps for arms and legs, Velcro/posey straps, head positioners) and move towards more restrictive devices (like papoose boards) (1).

A survey conducted on dental schools' pre-doctoral program directors concluded that students received training for managing young kids, but less than 5 hours were spend on teaching advanced BMT. Moreover, approximately half of the schools reported that less than 25 percent of the students had firsthand experience of using advanced behaviour guidance techniques on the patient (22). The AAPD thus recommends that undergraduate schools modify their curriculum (1) and increase the number of classes teaching advanced BMT to treat children. Additionally, they should introduce hands-on training programs in which dental students could practice using protective stabilization devices like papoose boards. This would allow newly graduates to have expertise in delivering dental services with minimal risk when using restraining devices (1).

### 2.2.2.4. Informed consent

Informed consent is “providing sufficient information for a patient to make an informed and rational choice, the information includes the inherent risks and alternatives that a reasonable doctor would provide having regard to the particular circumstances of the patient” (23). The consent form should contain detailed information regarding treatment procedures, benefits of using papoose boards, associated risks of using it, available alternative treatment options as well as the consequences associated with treatment deferral if the patient does not consent (24-28). Informed consent should be voluntary that is given freely by the patient without any pressure from the dental team (24, 28, 29).

Many provinces of Canada and the United States require a signed, written consent of the parents prior to starting with any dental procedure (24, 25, 30-32). In the United Kingdom, a court of law

affirmed that dentists who failed to prove patients' consent for the treatment put themselves at the risk of legal proceedings (23). In developing countries like India, the advancement in health care has increased patients' awareness regarding their rights in providing informed consent before any treatment procedure that is "invasive or irreversible" (23).

Dentists using papoose boards without obtaining a specific signed informed consent from the parents could thus be potentially charged with abuse or a battery for inappropriately touching patient's body (4, 6, 27, 33, 34). The AAPD states that if it is likely that the papoose might be needed in future appointments, dentists must address the issue with the parents and the children in the prior appointment (1).

As for children's consent, a study conducted in a Swedish University hospital reported that the children were not expected to give full consent, but the authors considered that the dentists should always intent to involve them in decision-making (35). Similarly, a report published in the US provides guidelines to obtain consent from the children patients and ensure their involvement in the decision-making process (36). This study emphasizes the importance and challenges encountered in obtaining consent from the vulnerable population that is, children and patients with disability. The authors add that is the clinician's responsibility to involve the patients according to their developmental capacity to take part in the decision-making process under the guardians' approval.

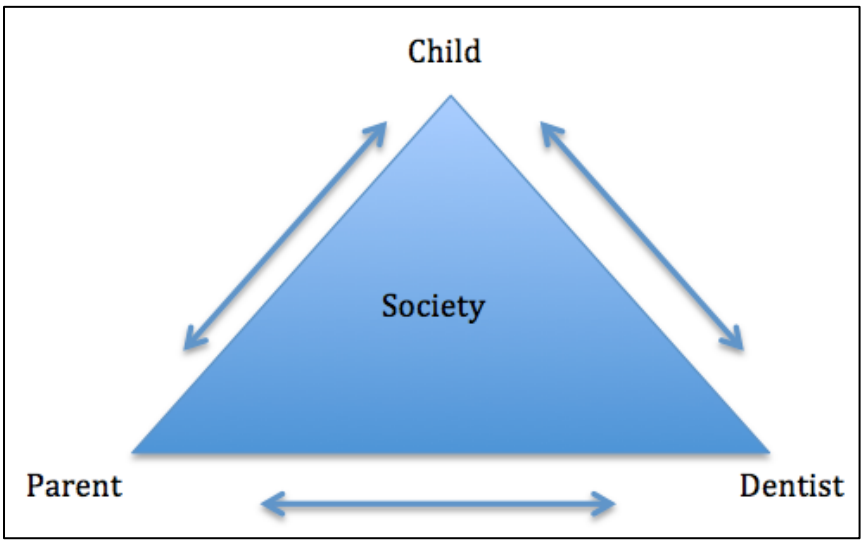
### 2.2.2.5. Documentation and careful monitoring of patients

According to the AAPD, dentists should provide their patients with appropriate information and proper documents regarding the papoose boards (16). This documentation must include the reason for applying a papoose board and the duration of its use (1), which should depend on the emotional status of a patient that is, to be used for shorter duration in anxious children (31, 37). Dentists should also carefully monitor patients' physical and psychological conditions and document any behaviour changes or inappropriate outcomes (1). At the end of the procedure, the papoose should be removed slowly and sequentially evaluating the behaviour of the patient so as to avoid any injury (38).

## 2.3. Perceptions of health professionals, children and parents regarding the use of papoose boards

The treatment relationship between dental health professionals and children is described by Wright et al in the Pedodontic Treatment Triangle (10).

**Figure 3. Pedodontic treatment triangle (adapted from Wright et al. 2014) (10)**




The child at the top is the most important pillar while the dentist and the parents constitute the base of the triangle. The society is at the centre and shows its influence on the treatment modalities. The continuous mutual communication and sharing of perspectives between these actors is very important in dental health decision-making (10). This is why we explored the literature according to the three main pillars of the treatment triangle, as presented in the next paragraphs.

### 2.3.1. Health professional's perspectives

Dentists have responsibilities towards their profession and their patients to render dental services effectively and efficiently. According to Wright, these responsibilities should be fulfilled in a way that instil positive psychological and dental attitude in the patient (10).

#### 2.3.1.1. Health professional's perspectives in dentistry

##### 2.3.1.1.1. Consequences of using the papoose boards

The studies that we identified are surveys that investigate the perspectives of paediatric dentists (39) in the United Kingdom, pre/post-doctoral paediatric dentistry programs directors in the US (22, 40), and general dentists and dental students in the US (41). In all these studies, the papoose boards were ranked the least acceptable BMT compared to other less invasive techniques like communication, Tell-show-do (TSD), etc. However, dental health professionals felt that, if required, the papoose could be used in treating pre-medicated, physically handicapped very young children. The dentists surveyed thought that papoose boards could cause both psychological and physical harm in the children. In one study, dentists considered that their use in the early years of childhood could develop lifelong dental fear (19). Ethicists also considered the use of physical restraints like papoose boards as ethically wrong and inhumane (42). In other studies, however, dental professionals thought that papoose boards did not create long-term dental fear, as children could not recall events after a long time if not reinforced (43-46). Furthermore, an author documented that the negative aspects of using physical restraints had been overrated and their benefits never discussed much (9).

##### 2.3.1.1.2. Decision to use the papoose boards

The acceptance of BMTs by the patients is largely dependant upon the way dental health professionals use this technique (47). In Minnesota, Glasrud explored the association between demographic, structural and attitudinal dentists' characteristics and their choice of BMT in treating pre-school children(48). He concluded that the majority of dentists considered parental presence in the operatory room as an obstacle in providing dental care to the children. Also, dentists with an authoritarian approach and those that were profit-oriented used more physical restraints compared to the others (48). It has been shown indeed that US dentists use invasive BMTs like restraints and hand over mouth exercise (HOME) mostly to increase their productivity i.e. to treat more patients in less time (49, 50).

Another important factor regarding the decision to use the papoose boards is the balance between the autonomy versus the safety of the patient (9). In 1991, the license of a North Carolina's

dentist was temporarily suspended because he used restraints with a patient. The reason behind this suspension was not only the use of restraints, but also because it hampered his patient's autonomy (9, 36). Thus, a careful evaluation of the condition of every patient is of utmost importance before deciding to use any advanced BMT.

In an editorial, Weaver expressed his feelings regarding the use of papoose boards in the 21st century (2): papoose boards reminded him of the 20th century war times when restraints were used to amputate the soldiers' legs, as there were no other option available. He also provided insight into the reasons behind using papoose boards till date: procedures involving conscious sedation and general anaesthesia are not insured in the US, so less trained anaesthetists are available. In some states like Florida there are very strict rules for using any sort of sedation i.e. the dentists along with trained nurses cannot themselves sedate their patients in the clinic or hire mobile dental or medical anaesthesiologists unless they have sedation or anaesthesia training and certification. All these reasons results in more use of restraints like papoose boards.

#### 2.3.1.1.3. International perspectives on the use of papoose boards

Research shows that dental health professionals' perspective on papoose boards differ according to the country in which they live. The acceptance for papoose boards also varies from a country to another. For example, papoose boards are considered unacceptable for dental practice in the United Kingdom (UK) (42): they are seen as unethical and grounds for child abuse. In this country, children's wishes are both respected and protected from a very young age (51), and the use of any device that hampers their autonomy, like passive restraints along with conscious sedation, is unacceptable. The dentists in the UK prefer general anaesthesia in comparison to conscious sedation (52). The Scottish Intercollegiate Guideline Network document on safe sedation of children undergoing diagnostic and therapeutic procedures states that 'there is no place for physical restraint or hand over mouth (HOM) techniques in the dental treatment of children', (53). The dentists in the UK prefer to collaborate with parents i.e. they invite them inside the treatment room to help the dental team in making the child cooperative (39). A study by Newton et al. discusses the factors influencing the dentist's choice of techniques and tries to explore the perspectives of pediatric dentists in the UK (54). In this quantitative study authors mailed questionnaires to specialists who were asked to describe the situations in which they use

papoose boards and if they thought its use had any psychological effect on children. They concluded that few dentists sometimes felt the need of using papoose boards but only in certain children with a disability; nevertheless, they thought that the latter might develop dental fear for future appointments (54).

In Australia, methods of restraining such as Hand Over Mouth Exercise (HOME) have not been used for decades (49, 55). According to the study demonstrating the strategies used by dentists to manage children with anxiety or behavior problems, specialists use restraints more in comparison to the general dentists. However, they use restraints for very limited times and for specific treatment procedures like extractions or anesthetizing a tooth when a child is uncooperative (49).

According to Brahm et al., the dentists are more efficient in Sweden than in other countries in dealing with anxious patients: well trained in anxiety reducing techniques, they more often use techniques like relaxation, distraction and tell-show-do to manage the behaviour of anxious patients (56).

In line with the discussion so far, we came across another study conducted in India. It reported that since 2003, the use of papoose boards has declined and it is not used at all in some Indian provinces. The reason described by the dentists for this decline was an increased parental awareness of their rights and the availability of alternative treatment options (57).

In North America, the use of restraints with sedation is a more acceptable technique (4): “In the US, the courts have considered restraint a proper modality for healthcare when an appropriately documented decision to use it is made by a physician or a dentist” (42).

#### 2.3.1.2. Health professional’s perspective in other disciplines

We reviewed the literature from other disciplines to have an insight into doctors' and nurses' perceptions of using restraints both in children and adults. The literature in psychiatry shows that health care providers have concerns regarding the adverse consequences (58, 59) of restraints. Studies have indeed demonstrated that using such invasive technique increase the aggressive behaviour of the patient rather than decreasing it (46, 60). This said, the rate of their use has remained almost the same in the past decades among adults and institutionalized populations (61). Besides, the male doctors were reported to use restraints more in comparison to females.

Studies also suggested that in psychiatry there was a need to train the staff to deal with aggressive patients by using less invasive techniques (61).
Nurses have diverse views regarding the use of restraints on children during medical procedures (62). Some in favour of restraints felt that it was the best way to deliver quality treatment to their patients (63). Others were against because they felt that their use developed mistrust between them and their patients (64). Demir states that an inadequate number of trained pediatric nurses is the main reason for increased use of restraints in Turkey. However, various negative consequences of restraints have been reported in this country like oedema and cyanosis of the area restrained, anger and even depression (65).

### 2.3.2. Children's perspectives

The literature is scarce about children's perspectives on the use of papoose boards in dentistry. One of the reasons for this scarcity is that, historically, children were considered as 'objects' of research that was carried out 'on' children as opposed to 'with' children (66, 67). The article 12 of the United Nations Convention on the Rights of the Child (UNCRC) was the impetus for change in seeing children as 'subjects' or 'participants' in research (68). According to Kellett, "a realization of children as social actors in their own right, agents in their own worlds provided the momentum to propel agendas towards research 'with' children and to the gradual acceptance that children could be more than participants in research, they could be 'co-researchers'" (69-71). Children should therefore become 'active researchers' acknowledging the importance of "affording children and young people a voice that is listened to and heard by adults" (71). These advancements are gradually changing people's perception towards children and thereby focusing more on developing patient-centred services. Conducting qualitative research with children assists researchers in eliciting their voices and gaining insight to their perspective towards oral health and care (72). But there is still little guidance available on conversational methods involving principles of child interviewing (73). One who embarks on work with young children need to forge a new understanding of the standards for quality in qualitative research with children (74) and requires the acquisition of skills either through training or collaboration with colleagues from other disciplines (72).

### 2.3.3. Parents' perspectives

During the past three decades, a considerable shift has been noticed in the dentist-patient relationship, especially with respect to child patients. Whereas earlier parents tended to accept and trust their dentists' decisions, they are now more aware about their rights and more willing to question the treatment procedures carried out on their child (6).

Studies exploring parental preference of BMTs showed that parents rarely preferred the use of papoose boards (3, 75-83). In these studies, conducted by Eaton et al in the US, Boka et al, and Luis Leon J. et al in Europe, parents were asked to rank BMTs on a 0-10 scale: the papoose boards, general anaesthesia, and HOME were the least three acceptable techniques. Other studies found (3, 34, 81, 84-88) that if parents were informed and their consent asked, they comparatively showed a positive attitude towards this technique.

Lawrence et al. studied other factors that could affect the acceptance of BMTs by the parents, such as their socioeconomic and education levels: the researchers provided information regarding the techniques to participants from a lower middle class and with a low level of education: the results showed that their rate of acceptance of BMTs was higher as compared to a previous study by Murphy among parents from middle to upper-middle classes. Hence, they concluded that participants with prior explanation of BMT and from low socio-economic status were less likely to object the dentists' decision to use the papoose boards (34).

Parents' acceptability of BMTs also differs with the type of dental procedure (83). Murphy et al. in North Carolina showed parents videotaped segments of treatment of three- to five-year-old children with whom 10 BMT's were used successfully: the majority of them were never satisfied with the use of papoose boards and hand over mouth exercises (HOME), but judged acceptable general anaesthesia and sedation only for tooth extraction and extraction and restoration. They found acceptable the other techniques like tell-show-do, positive reinforcement and voice-control for nearly all treatment procedures.

The consequences of using papoose boards are strenuous and anxiety provoking for parents (89). A study conducted in the US showed that even if parents accepted the use of papoose boards, they felt stressed observing their child tied (90). Some even discontinued a treatment, as it was very difficult for them to consent for such an invasive technique (19, 91-93). Their acceptance, however, increased in the case of urgent requirement (94).

After reviewing the dental literature, we realise that parents have never identified the papoose boards as their first choice for the treatment. They accepted papoose boards half-heartedly when they were not being offered with other options. This said, the dental literature consists of studies that are mostly quantitative surveys: we lack qualitative studies exploring parents' perceptions and experiences regarding the use of invasive BMTs like papoose boards.

## 2.4. Conclusion

The use of papoose boards in dentistry is controversial with many reported harmful consequences. There are various factors that affect its acceptability, like when and how the dental health professionals use them. At present, it appears that we have insights of dental health professionals' perspective regarding the use of papoose boards, but we lack the perspectives of two parts of the pedodontic triangle: children and parents. Children's voice has never been given much importance. It is needed though, but it is still very complex to conduct studies with them. It is also important to understand the experiences of parents regarding papoose boards being used on their children.

# 3. Research objective

The objective of this research is to describe and understand the lived experiences of parents regarding the use of papoose boards on their children during dental treatment.

The literature indeed fails to provide us with a deep insight of parents' experiences and concerns regarding the use of papoose boards. In order to provide better services to both the children and their parents, it is necessary to better understand their experiences regarding the use of papoose boards and their involvement in the decision-making process.

Ultimately, through this research, we would like to provide dental health professionals with an enhanced understanding of parents' perspectives related to the use of papoose boards. We also expect that this study will help them establish treatment approaches that improve parents and children's dental experiences.

# 4. Methodology

## 4.1. Research methodology: Interpretive Phenomenology

Phenomenology is a qualitative research methodology (95) in the human sciences that is deeply rooted in philosophical foundations (96-99). It is regarded as an inductive, subjective qualitative research approach. In other words, the knowledge generated from phenomenological research results from the interaction between the researcher and the participant (99). Phenomenology aims at "gaining a deeper understanding of the nature or meaning of our everyday experiences" (96). There are two main phenomenological approaches or methodologies: Husserl's (descriptive) phenomenology and Heidegger's interpretive (hermeneutics) phenomenology (100). Husserl, 'the father' of phenomenology (101, 102), described phenomenology as the study of lived experience i.e. "the study of the life world- the world as we immediately experience it pre-reflectively rather than as we conceptualize, categorize, or reflect on it" (96). He believed that the researchers should 'bracket' their prior knowledge and biases. Researchers that follow Husserl's phenomenology thus advise not to conduct intensive literature review before starting their study or to have specific research question (95, 103).

On the other hand, one of Husserl's students, Martin Heidegger, believed that it is impossible to completely exclude oneself from pre-existing beliefs and knowledge. In fact, he thought that our personal experiences and opinions shape the way we view the world (95). Furthermore, he asserted that pre-existing ideas and experiences are rather essential to understand a phenomenon (95). Thus, he stated that prior knowledge of the existing scientific literature helps the researchers to identify the area or topic needing to be studied. According to Van Manen interpretive phenomenology is a research methodology used to understand the "lived experience" of a research topic within a 'life world'. As said: "Phenomenology, aims at gaining a deeper understanding of the nature or meaning of our everyday experiences" (96).

Hence, we adopted interpretive phenomenology as our methodological approach because we thought that it would enable us to elicit parents' perceptions based on their experiences about the use of a papoose board on their child.

## 4.2. Participants

### 4.2.1. Recruitment

This research relied on a partnership we developed with the Division of Dentistry of the Montreal Children Hospital (MCH). The MCH is one of the two main children's hospitals in Montreal. It provides highest quality of care to infants, children and teenagers. The division of dentistry of the MCH each year treats thousands of children referred from both general and specialized clinics around Montreal. The Dentistry division is fully equipped to deal with multidisciplinary emergencies and trauma cases as well as to welcome children with "special needs". The AAPD defines individuals with special health care needs (SHCN) as those with 'any physical, developmental, mental, sensory, behavioural, cognitive, or emotional impairment or limiting condition that requires medical management, healthcare intervention, and/or use of specialized services or programs' (104). Our partnership with the MCH was pertinent because this dental clinic uses papoose boards on a daily basis under the following situations:

- Children with "special needs"
- Uncooperative children requiring multiple visits
- Emergency treatments

Hence, we recruited parents of children treated with the papoose boards through the dental clinic of the MCH. Dr. Beatriz Ferraz dos Santos, Associate co-director in research at the MCH and co-researcher in this study, helped us conceptualizing our research and recruiting participants. She organized a meeting at the MCH during lunch hours to introduce me to the dental staff and the people at the front desk. Then I explained briefly the research to everyone so that they could help us to reach prospective participants. Also, I maintained a diary that contained the appointment schedule of patients to be treated with papoose boards. Everyday I sat in the waiting area to meet prospective participants. After the staff at the reception introduced me to the parents, I presented the latter with a brief summary of the research. At this time, I also gave them a consent form that contained a brief description of the study and the name of the team members along with their affiliations and contact details. If the parents were interested in participating, I noted their contact information along with their preferred day and time to be called. This strategy was adopted to provide prospective participants enough time to make a decision to participate in the study and discuss with their family members.

If the parents consented to participate in the study, we then scheduled an interview at their preferred time and place: we offered them to choose a convenient place for the interview, such as their home or a place nearby. We also offered to meet at McGill University or at the MCH.

### 4.2.2. Sampling

In phenomenological research, participants are selected based on whether they have the unique experience of the studied phenomenon (97). Therefore, we used a purposeful sampling technique (105) to select parents of children treated with the papoose boards. The ultimate goal of purposeful sampling is to obtain cases deemed information-rich for the study and for whom the research question is significant. The basic principle behind this technique is to gain better understanding into the phenomenon by looking at it from a specific unique perspective (106).
We used the following inclusion and exclusion criteria:

**Inclusion criteria:**

1. Parents/guardians of children treated at the MCH with a papoose board;
2. Parents/guardians spoke English;
3. Parents/guardians signed the written consent for participating in the research.

**Exclusion criteria:** Papoose used on the children due to an emergency (I presumed that, in case of emergency, their would be little room for communication between the dentists and the parents and that the latters' experience of the papoose boards would be relatively good.)
Phenomenology is keen to have detailed interpretive descriptions of the cases, which can be realistically achieved on small samples. As Kvale puts it, "To the common question 'How many interview subjects do I need?' the answer is simply, 'Interview so many subject that you find out what you need to know' " (107). Englander stated that the sample size could vary from five to 20 participants depending upon amount of data provided by the participants (97, 101). We expected to recruit 10-12 participants but finally stopped after interviewing seven. We then considered that the amount of data generated from the interviews was sufficient to achieve our objective to understand and describe parents' experiences regarding the use of papoose boards.

## 4.3. Data collection

## Interviews

In interpretive phenomenological research, we aim to gain deeper insight into the phenomena of interest. Hence, data is collected through face-to-face semi-structured interviews, written personal accounts such as diaries (97, 99, 108), or a combination of these methods (96). Semi-structured interviews provide rich data in terms of nuances and depth. Additionally, the researcher can also modify the initial questions according to participants' responses and even probe the interesting and important points that arise during the conversations (97, 99). Hence, we adopted semi-structured interviews as our data collection method.

We designed the interview guide (Appendix A) with a list of questions to guide us through the interviews, but we did not strictly follow them (97): our interviews proceeded according to the participants' interests or concerns (99), and we remained flexible while interviewing them by providing them freedom of expression (108). We modified the interview guide a few times after the first interview, mainly to make our questions more effective and clear i.e. easily understandable by the participants.

The interviews were conducted at different places according to the preference of the interviewees: one was conducted at the coffee shop, another at a public library, and three at a participant's home; one interview was also conducted at the hospital (meeting room) and one at the office of the participant.

At the beginning of each interview, I greeted and thanked the person for participating in the study and I introduced myself again. Then I briefly summarised the study again to the participant and asked if the latter had any questions or needed clarification on any specific area. I reminded them their rights, which were included in the consent form (Appendix B), and I asked them to sign the consent form.

I adopted a funnelling technique in the interviews: I started by asking general questions related to the research topic and then slowly moved towards more specific issues. This approach helped both of us to become comfortable with each other and the audio device, so that we could later discuss more sensitive and emotional issues like the participant's experiences regarding the use of papoose boards. Whenever I felt that the participant did not understand my question or gave a

short reply, I tried to repeat or rephrase the question. In the course of the interview, I frequently rephrased responses as a means of verification.

I asked the demographic questions at the end of the interview to identify specific characteristics of the participant, such as age, sex, race/ethnicity, education level, employment, family status and income (Appendix A). Although I tried to maintain eye contact with the participant throughout the interview and kept the process of writing notes minimal, I felt the need of making personal notes on two occasions. First, during the interviews I noted moments of silence, or laughs, or changing body language depicting the emotions of the participant. Second, once the audio recording was off at the end of the interviews, if a participant shared important perspectives on the topic. For instance, one mother shared with me her moments of unpleasant encounters with other doctors after I stopped the recording. While interviewing the participants, a few times I encountered moments of pause depicting feelings of uneasiness, or laughter showing both appreciation and disregard for their dentists' decision to use the papoose board, or changing body languages indicating difficulty in expressing their experiences. I felt that writing notes helped me to better understand the participant's perspectives on the topic.

At the end of the interviews, I thanked the participants and asked them if I could call them in future for any additional clarification or questions. Each interview lasted approximately 45-60 min. The interviews were conducted in English, audio-recorded, and immediately transcribed verbatim.

## 4.4. Data analysis

Data analysis in interpretive phenomenology does not have any prescriptive guidelines. My aim as a researcher was to have an in-depth understanding of the participants' experiences regarding the use of papoose boards during dental treatment. I read the generated data numerous times, identified the themes and connected them to each other to make sense of them. This was a long recursive process that involved a constant moving back and forth between the entire data set (99, 109).

### 4.4.1. Interview transcription

I tried to transcribe the interviews in a word document as soon as possible so that I could recall both the verbal (interview recorded) and non-verbal communication (from the notes) during the interview. This transcription process was time-consuming and iterative i.e. I had to go back and forth through the audio-recordings and transcripts.

### 4.4.2. Developing findings

I developed the findings through a 'thematic analysis' (96). In interpretive phenomenological studies, according to Van Manen (96), themes are described as the experiences of the participants related to the phenomenon of interest. Hence, thematic analysis is an attempt to understand and describe the experiences of the participants. I read the transcripts and wrote notes or comments that summarized or re-phrased the findings. Some comments also indicated the similarities between participants. I also annotated my thoughts and feelings that emerged at the time of the interviews. This procedure was repeated for the first few transcripts. At this stage, the initial themes started emerging and I read the rest of the transcripts both with the emerging themes in mind and simultaneously looking for new ones. Once I finished analyzing all the transcripts, I had a list of emergent themes. Thereafter, I started looking for connections between the findings. At this point, I had multiple discussions with my supervisor and other research team members: helped by their feedbacks I finally came up with the list of final findings (99).

### 4.4.3. Writing and re-writing

In interpretive phenomenology, writing plays a vital role. It is a form of writing that serves as a tool for research through the entire process. (96). The researcher has the responsibility of describing participants' experiences as closely as possible through his/her writing.

### 4.4.4. Reflexivity

Reflexivity is an important part of phenomenological data analysis (110). It involves "looking again, reflecting your thinking back to yourself" (110). Interpretive phenomenology focuses on "what happens in the interactions between us and our world, the context in which we come into contact with objects (reality), and the way in which our descriptions (representations) of them are bound by time and place" (110). As explained by Finlay (as cited in Shaw 2010) (110): "Our understanding of 'other-ness' arises through a process of making ourselves more transparent. Without examining ourselves we run the risk of letting our unelucidated prejudices dominate our research. New understanding emerges from a complex dialectic between knower and known; between the researcher's past pre-understandings and the present research process, between the self-interpreted co-constructions of both participant and researcher. Between and beyond . . ."
In other words, our pre-existing knowledge or experiences regarding the research topic helped us to re-live the experiences of our study participants and better understand the essential meaning of the phenomenon by having "insider's perspective" (110).
Reflexivity has been an ongoing part of my research to identify my status as a dentist and as a mother. I could comprehend the way in which both of these distinct identities were interconnected and affected my research. My role as a dentist helped me to understand the importance of the doctor-patient relationship. As a dentist, I have a dual responsibility towards my patients: first I ought to deliver high quality dental care and second to be empathetic to my patients. On the other hand, as a mother, I could co-relate the feelings of other parents with mine. It was very hard for me to imagine using a papoose board on my little girl. Hence, I could imagine the discomfort encountered by the parents of our study while making this decision. Also I learned from our study participants how circumstances affect and modify our perception towards the same treatment procedure.

## 4.5. Ethical considerations

We conducted our study according to the highest ethical standards. We obtained approval from the research ethics board of McGill University Health Centre before starting the research project. All participants were informed about their expected time commitment, and all read and signed

the consent form prior taking part in the study. The risks inherent to this project were very low, even though some participants felt a bit uncomfortable during their interview while remembering the use papoose boards on their child. We assured the participants that if some questions during the interviews made them uncomfortable, they could decline answering or opt out of the study. We took several measures to protect the confidentiality and anonymity of the participants. All the personal information collected about them remained confidential and kept in a locked office at McGill University. All recordings were transcribed by the student researcher and filed via numerical codes in lieu of respondent's names on her computer. Any information shared with the other members of the research team did not include identifiable information regarding the participants.

# 5. Findings

## 5.1. Description of the participants

The participants included six parents (four mothers and two fathers) and one grand- mother of a child treated with a papoose board at the MCH (Table1). Participants' age ranged from 30 to 59 years, and their primary language was French for three of them, English for two, Mandarin and Icelandic for the other two. Of the seven participants, three were immigrants and originated from China, Sweden, and France. Most of them had a University degree and a dental insurance. Four had a total household annual income of more than $70,000.

The participants had been numbered from one-to-seven following the order of interview taken from first to last respectively to facilitate the reading.

**Table 1.** Socio-demographic characteristics of the participants

| **Characteristics of the participants** | **Number** |
|---|---|
| **Age, years** | |
| 18-29 | - |
| 30-49 | 6 |
| 50-59 | 1 |
| **Gender of the participant** | |
| Male | 2 |
| Female | 5 |
| **Relation with the child** | |
| Mother | 4 |
| Father | 2 |
| Others (Grand-mother) | 1 |
| **Primary language (s)** | |
| French | 3 |
| English | 2 |
| Other (Mandarin, Icelandic) | 2 |
| **Immigration status** | |
| Non-immigrant | 4 |
| Immigrant | 3 |
| **Education** | |
| High school diploma or under | - |
| DEC | 2 |
| University degree | 5 |
| **Total annual household income** | |
| <$30,000 | 2 |
| $30,000-$49,999 | - |
| $50,000-$69,999 | - |
| >$70,000 | 4 |
| Did not prefer to answer | 1 |
| **Dental insurance** | |
| Yes | 5 |
| No | 2 |

**Table 2.** Demographic characteristics of participants' children and treatment procedures associated with the use of papoose boards

| Characteristics of participants' child | Number |
|---|---|
| **Child's age, years** | |
| 2-7 | 3 |
| 8-12 | 4 |
| **Child's gender** | |
| Girl | 5 |
| Boy | 2 |
| **Treatment procedures** | |
| Examination and preventive treatment (scaling/sealants) | 3 |
| Restorative treatment | 3 |
| Extractions | 1 |

## 5.2. Parents' experiences related to the use of papoose board on their children

I started the research with my perspective as a parent and my uncomfortable feelings about my child being treated on the papoose boards. Additionally, I was quite confident that all parents had a similar belief. In contrast, after meeting the participants of my study I realized that there was more than one perspective on the use of papoose boards. The experiences of the participants depended on many factors like the age and the medical condition of their child, the type of dental treatment their children needed, the approach of the dental team, and the parents' own previous dental experiences along with their cultural background and beliefs in raising their child.
Three participants of our study were completely against the use of papoose boards during the dental treatment of their child. Two of them described it as a "betrayal of trust" in the relation with their child. They strongly felt that as parents it was their duty to take decisions in the best interest of their child, and they considered the use of the papoose opposed to their beliefs in raising their child. It was against their thinking to leave a child alone in difficult situations like the papoose boards. These participants considered the use of papoose boards as an awful and bad

experience for their child and even for themselves. One of these two participants disliked it so much that he would have preferred to postpone the treatment of his child until the eruption of his permanent teeth. This participant did not feel the need to treat the baby teeth with invasive treatment interventions like the papoose. This was exemplified in the extract below:

> *Yes, for the parent use of papoose make them feel guilty because it hurts the kids and it's a bad experience for both the parent and the kid. It's hard for the kids to believe you as they trusted you but now the kid is in the papoose and no one is happy. It made me so uncomfortable to see my child hung on that board. It really upsets. [Participant 1]*

The other participant who felt like betraying the trust of her child struggled to voice her opinion to the dentist. We noticed two main reasons behind her struggle. Firstly, as she moved to Canada from Sweden the year before, she was facing challenges in her new country and trying to adjust with a different cultural background, distinct beliefs and ways of raising a child. This change of environment made her hesitant to question the dentist regarding the procedures, especially with respect to the papoose. Secondly, accepting the papoose was difficult for her as she was an emotional person who felt the things more deeply and got affected more. She was shocked to see how her child was strapped, which created pressure marks around her child's wrist as she struggled to get loose. These emotions intensified her feelings against the papoose, which she considered bad for the health of her child:

> *I would say I felt betrayal of trust towards my kid because I never ever forced her to do anything and it's really against everything I believe. I really think we should avoid using it because when you are using this on the kid it upsets or frightens the kid. You are betraying the kid's trust that's my feeling. I feel that by constraining someone that is having hard time you are betraying the trust. [Participant 6]*

Our next participant used words like "traumatic", "frightening" and "horrible" to describe her feelings towards the papoose boards. These harsh words give us an insight into the participants' distressing experience with the use of the papoose on her child. Moreover, this participant felt helpless to see her child tied in the papoose. Even recalling those experiences was very difficult for her and made her emotional again and again during our conversation. At one point of time, we even needed to pause for few minutes, so that she could pull herself together. She also explained becoming anxious before each dental appointment of her daughter. In our conversation this participant expressed many times her opinion on this finding that I am sharing in the text below:

*It's horrible like she screams the whole hour we were there, so it's traumatic for her, it's traumatic for me, and it's traumatic for everyone who hears her. Well, yes because you are putting the child into the environment they don't like, it's the experience they don't like and they never wanna come back to the dentist. Why not take some of the edge off? And I don't like the papoose board because I find my daughter completely strapped down in it. But I understand that's the only way that dentist is able to do what he needs to do. My question always was: why don't you just use laughing gas? It's horrible, it's you wanna help her, you wanna stop, want to do anything to calm her down but, it's not an experience a parent wants and I come out of there shaking. It's very it's very emotional it's not fun. [Participant 4]*

This quotation illustrates how this participant was horrified by the use of the papoose. It also shows that she understood why the dentist needed papoose to complete the treatment. But she wished that the professional could have used medication or sedation to make this dental experience less stressful for both her and her daughter.

As we discussed earlier, the parents did not share the same opinion regarding the papoose and the level of acceptance seemed related with the tolerance of the papoose by their child. Besides these participants with a very negative experience, three had a very different view and were in favour of using the papoose. When the papoose was introduced to one of them, she was open to try it and found it better than the sedation or the general anaesthesia. She said that the papoose board had made her dental experiences less stressful: it made her child more calm and co-operative, then allowing the dentist to do the treatment. The following two extracts from our conversation support our interpretation:

*I didn't see it [papoose] as a negative thing. I don't know people see it like a bad thing but I certainly didn't because I had a feeling, you know, though she wasn't a baby anymore, but as baby liked to be swaddled you know, it calms them down, so it's a same principle with the papoose. [Participant 2]*

*I was happy with it because it made the dental treatment lot easier for us. Earlier the dental appointments were stressful as one can imagine when you are trying to hold your child down and you want the work to be done but she's crying and it's, it's you know, it's, that's a stressful experience. But after using the papoose we say that she was calmer, that it was easier for her, for the child and it made the dentist and the hygienist do the exam and the cleaning and everything else, you know, more thoroughly or better or, or completely. [Participant 2]*

Some of the participants, especially parents of children with special health care needs, even expressed the desire to have a device similar to the papoose at home or in other medical settings. They explained that it could be helpful in hospitals for getting their child vaccinated or for

performing the blood tests. One of them, a single father of a child with quadriplegia, had encountered lot of problems in handling his daughter alone. So he thought that a papoose could help him feeding his child or brushing her teeth at home. This is exemplified in the following extract:

> *I thought it was brilliant. It's what they need to pull her arms down coming at their faces. I wasn't opposed to it from the beginning because I didn't see my daughter react negatively to being restrained. For me it makes sense if it allows the dentist to be more efficient, have less trouble with the cleaning, do more quality cleaning of the mouth, safer as well as I'm sure its not safe when sharper objects are in the child's mouth and child's fighting to get out of the dental chair. So I'm all for it as long as the child isn't having the negative experience. In my case it always have been positive, there hasn't been any anxiety. She accepts it so I didn't had that issue. But if a child is more frightened being restrained or more claustrophobic or doesn't like to be restrained, I could see negative sides of it as well but for me it's just positive. [Participant 3]*

This participant thus described the papoose as: "The right tool to get the job done properly and safely."

The other participant in favour of the papoose, the grandmother of the child, considered the papoose as a "safety-mechanism" restricting the sudden bodily movements of the child and protecting the child from getting injured from the high-speed machines used during the treatment. She believed that it was the "fear of the unknown" that bothered her grandson, not the pain or the discomfort caused by the papoose.

> *So I went in [treatment room] and when I went in, the table the chair was all lying down. The dentist said: "you are gonna play the role of holding him steady". So I said: "that's not a problem". So the first thing they did is to install the papoose. I think it's [papoose] an anchor that they have on the chair itself then they put my grandson in it and he is lying down. First they did hold his arms and legs straight. So he's got his arms side by side to his body and then they wrapped it, so it's got that velcro attachment snuggly you know, so that he's, he doesn't move and then they do lower part the legs. But he is a little boy and he is quite strong, so during the intervention his upper body didn't move except his face, head is free and the dentist got it [the head of the child] by sort of headlock. She [dentist] was very good the way she held him you know, to keep his face steady to give him injection to put him [the tooth] to sleep. He [grandson] cried from beginning to the end but my impression is he cried because he doesn't know what was happening. It was more of a fear more than: "oh, that it hurts". But did it hurt him, I asked that question to myself: "no" he was snuggly fit in there and it was for his own good so fine with me. I think it was the proper way you know, humane way of doing things. [Participant 7]*

She also shared her experience when her grandson was treated without the papoose. According to her, the papoose was better than the parent restraining the child: she felt that the pressure applied by a person to restrain the movement of the child could be uneven and strong contrarily to the papoose that applies uniform pressure and cannot harm the child.

> *At the same time I went for another intervention, actually it wasn't the intervention it was the verification before the dentist came to the conclusion that we have to repair this tooth. Aww, it was couple of weeks before, I went in [treatment room] and I had to hold him [grandson] and that was difficult. There was no papoose he was on me. I was lying on the chair and he was on me. I had my arms wrapped around him and they had to look at his tooth make him open his mouth and the whole thing. You don't wanna do that so I was glad that they had that wrapper [papoose] around him, because you just can't, I can't, you know, you can hold them too much [tight] or too little [loose]. You can hurt him. And this is I guess a constant pressure that's applied by the Velcro that doesn't go, so I would more recommend that approach [papoose] than having a parent or caring individual hold a child. [Participant 7]*

As I discussed further with this participant, we addressed another aspect of the subject: the perspective of her daughter and mother of the child patient. This participant felt that as we mature in life, our acceptance of difficult situations like the papoose increases. The mother of the child was indeed more affected by the papoose than the grandmother, who considered that the former was "young and naïve". Although the mother of the child realised that the papoose was needed she did not want to face this stressful situation and thus asked her own mother- the person we interviewed- to replace her in the dental clinic.

As shared by the participant:

> *My daughter is 24 years old and my grand child is 20 months. She is not very good at when he cries she cries too. So she asked me to go into the room. When dentist was doing the intervention [the papoose] with her assistant. And so I said: "no problem" not because I'm little cold hearted because I know even if he cries it's for his own good. I'm more rational. You can say it's more because of the age. I'm more mature. Little less into the emotions, you can control them more but when you are in your 20's and you just have a baby and as you say: "your hormones are…woosh [sound made indicating increased hormonal levels] going" so you take things more personally. I can relate to my daughter having these feelings you know and she's, she's got you know, loss of power. She has no control over there you know, she can't sooth her son you know, he has to go through this intervention and it's not her under control and I could relate this as I have been through this with my own son. [Participant 7]*

One of the participants had mitigated feelings: she initially considered the papoose as something horrible, violent, aggressive and hard to accept. She described the papoose as the "straps around

mummy" but found it as an acceptable procedure in comparison to a general anaesthesia (G.A). Eventually she felt that the papoose was not as bad as she believed initially; she considered it as a transition option that could be used temporarily for few years until it becomes possible to treat her daughter without the papoose. Moreover, she felt that the papoose was an educational tool that made children more responsible towards their oral hygiene and towards life in general; she added that nothing came easily in life and that we need to be respectful for what we have.

> *It's [papoose] education also it's not like in our society we try to avoid everything you know, we want only pleasure, pleasure, pleasure. And we are always unsatisfied and that's not the way I see things and of course it's not nice to use the papoose. But it also makes my daughter responsible for her tooth when she will grow. As now I'm washing her teeth but later it's part of her responsibility. As she went through this process of getting her teeth treated so she knows the price so may be she will try to take care of her teeth. Otherwise she would have to go back on the papoose and even open the mouth for may be 1 hour. [Participant 5]*

## 5.3. Parents' role in decision-making and factors guiding their decisions

The parents take care of the emotional, psychological and physical well being of their children. They are responsible for taking many decisions in their welfare. We thus wanted to know the role they played in the decision-making process regarding the papoose boards and the factors that guided their decisions. After interviewing the participants, we found that the following factors influenced their decision: communication between dentist-parent, introduction of the papoose as a solution to the problem being encountered and time given to the parents for decision-making.

### 5.3.1. Communication:

Communication between the dentists and the patients or the parents in case of children is necessary and represents the most important step towards patients' satisfaction. In addition, listening carefully to the patients' concerns is the first move towards effective communication and helps the dentists in establishing good relationships (10).

In our study we found two types of communication: firstly, between the dentists and the parents; secondly, between the dentists and the children. Moreover, we observed that the participants who themselves or their children had detailed conversations with the dentists regarding their concerns seemed more satisfied with the papoose boards. They discussed all their queries related to the

papoose and received satisfactory answers. As a result they made the decision to use the papoose during the treatment.

#### 5.3.1.1. Communication: Dentist and parent

One of the participants had undergone dental treatment in her childhood and believed to have some dental knowledge. This participant had many questions that she wanted to discuss with the dentists before making any decision for her child. In fact she had met many dentists before visiting the dental clinic at the MCH and explored all the available treatment options. She felt that her opinion mattered to the dentists of the hospital, as they listened to her concerns carefully and tried to find solutions. Hence, she developed confidence in her child's dentist and took the decision of getting her treated at the MCH dental clinic. This continuous mutual communication developed trust between her and the dentist, and she consequently accepted the dentist's decision to use the papoose board. The following extract from my conversation with this participant makes this finding more vivid:

> *So, I had six or seven meetings with the different dentists in Montreal. Yeah, at the children dental clinic I met the doctor and she was very open to talk to me. Because I had dental problems as a child, I have maybe more experience and knowledge than the other parents. So I asked lot of questions and I felt that she [the dentist] was open. I was very happy. The doctor we are working with is a woman. She is very kind, very soft, very patient, and she speaks very quietly. I never felt that she was listening to me and saying yes, yes, yes but thinking something else. Because sometimes you see the dentist and they already have the scenario in their head. But they listen to you politely but they don't listen, they are not listening. They just want to push their options and I didn't felt that way with this doctor. So I was like, okay, I'm feeling comfortable and she's open to listen to my story and my baby story. So I was quite confident with her. So we talk together about the options without general anaesthesia, all the options we had and we made the plan of intervention of four meetings to make something in my child mouth [crown build up]. [Participant 5]*

Another extract from our conversation further helps us to understand her involvement in the decision-making process. She mentioned that the dental staff showed her the papoose board, and explained how it worked prior to the appointment, so that she had enough time to prepare herself and her daughter. This is exemplified in the following passage:

> *She explained to me they had this option [papoose] and than they showed to me. The dentist told me, "we have the papoose and we call it sleeping bag and this is how it looks" and she showed me but not with my child but just with her hand. How they [the*

*dentist] lie down the child and how it works. Actually, so, it was quite concrete for me and I could prepare my child for the next appointment. Because the next appointment we will use it. And I was happy they showed it to me because with the name sleeping bag I couldn't understand these objects so I was happy to see. [Participant 5]*

These two quotations reflected that the participant clearly knew her choices related to the treatment of her child. These include: first, to have open communication with the dentist regarding all the treatment options and to be sure that he is flexible in switching amongst these alternatives. Second, she wanted to have all the knowledge regarding the options before deciding. Thus, she was content with her decision to choose the dental clinic at the MCH and the papoose boards.

On the contrary, another participant acknowledged that her involvement in the decision-making process regarding restraining of her child had been always minimal. She understood that due to her child's disability, she required some kind of restraining for the treatment. But she still expected to get an explanation from the doctors and to have the right to take time before taking a decision. However, her consent was never taken while using the papoose on her child. The following passage helps us to understand this thought process:

*It was not even an option at that time. They didn't even ask for the consent. They just did it. They just said, "look we have to tie her up to do the examination". I said, "Okay whatever you have to do". I don't know is their any other way, I don't know. Other than finding a miracle solution. So then they did it, they just tied her up and that was end of it. So it's not something that I had not seen before but it wasn't explained to me ever, what it was or anything like that. [Participant 4]*

#### 5.3.1.1.1. Alternative treatment options

In our study, we also noticed communication gaps between the dentists and the parents in discussing alternative treatment options: several parents wanted to know if other treatment options were available, some even suggesting alternative strategies to their dentist in order to reduce the stress levels of their child. However, in both of these situations, the dentists never discussed other options. This is exemplified in the extract below:

*This time I, I find the medication to sedate her [participant's daughter] because I have Activan [name of medication] for seizures. So I gave her half of that and I have homeopathic stuff to calm her down. It [the dental experience] wasn't as bad. But I don't understand, why the doctors don't suggest sedation every time? I don't like the papoose board because I find that my daughter completely strapped down but I understand that's*

*the only way that the doctor is able to do what he needs to do. My question always was: "why don't you just use laughing gas?" Because there are some of the dentists in Montreal who do use the gas and I don't know which one's they are and sometimes I most wanted to say that: "I don't wanna see this doctor can I go and see some other doctor who uses the gas because it's frightening."*
*If I ask the neurologist: "what do you think I should do?" she says: "ask the dentist." When I ask the dentist: "what to do?" he says: "ask the neurologist." They don't wanna deal with it, which is very surprising to me. [Participant 4]*

This passage from the conversation showed that the parent did not receive any satisfactory response from her dentist. Hence, she self-medicated her child and even wanted to change dentist.

Another participant reported the same kind of experience:

*Actually, no one explained it to me, that what it (papoose) will be, and how long it will take. I don't know at that time, what it will be, they asked me to sign some papers that I agree for this treatment. So I signed because that's a doctor it's a hospital, how can I say no at that end. But yes I would say that parents should be given some information about the facilities to be used during the treatment. The parents should be given some options, if there are some options and what it will be and how it works. [Participant 1]*

One of the parents told that she was unaware about the papoose on her first dental visit. She did not know what the papoose was and when she saw it being used on her daughter she was shocked and disliked it. Thus, she shared this feeling with their dentist in the next appointment. As described by her:

*I mean sometimes you get the shock and then afterwards you think and then you are prepared. I told her [dentist] afterwards that sleeping bag [papoose board] doesn't feel right. [Participant 6]*

In spite of the fact that no one suggested her any other option, she felt that there must be an alternative to papoose boards. She wanted to know if there were less restrictive options available and most importantly wanted to have a discussion with her dentist before continuing the treatment:

*I would, would, would say I'm against it [papoose] but that said I don't know what else, if there is any alternative? You know if it just has to be because there is nothing else to do. But over all I would, I would say I'm against it. And I, yeah there must be something else, some other strategies that's more, that doesn't contain constraining the kid. I really want if there are other alternatives and people could get the time to discuss that before using the sleeping bag. [Participant 6]*

#### 5.3.1.1.2. Professional expertise of the dentists

The participants that communicated well with their dentists developed trustful relationship and considered them to have adequate skills and expertise. Hence, they trusted their dentist, accepted their judgement, and seemed satisfied with the decision to use the papoose. On the contrary, the participants that were not satisfied with the use of papoose board felt that the dentist used it because they lacked skills related to alternative techniques and procedures.
The following two extracts from two different participants help us understand parents' perspectives:

> *I mean certainly, you know obvious the reason why we started to come here at the first place is that we figured there is no other better place that are gonna be used to treating the kids especially the kids that are more may be a little bit more sensitive, more difficult and more frightened. Because the dentists at the children dental clinic are used to kids so they don't get afraid. You know as soon as the kids start screaming or thrashing about. The dentist and the hygienist stay very, very calm. So when they [the dentist] talked to me about the papoose the first time, I was completely open. I was certainly willing to try because If it's gonna make her [participant's daughter] feel better and it's gonna make them [the dentist] able to do the procedures. Absolutely, I was open to it. [Participant 2]*

> *This team seem more at ease working with the child like my daughter who is not capable of communicating or comprehending what's being asked of her to do. There are techniques that were bit different that how you work around the disability. Like they will hold her hand in different positions, the way they pull her lips back to get her work done. They had tools obviously to keep her mouth open, which the other dentist had as well. But just the way they work around her was so much different their patience was of much different [laugh] level. At first I had a bit of anxiety because I wasn't sure how she [participant's daughter] was gonna react to treatment. And but now I'm more at ease. I never oppose, when they propose the papoose board. I didn't know what it was, I saw, I thought it was brilliant. It's what they need to pull her arms down not at their faces. So they were able to work because her arms were restrained along her sides. I wasn't opposed to it from the beginning because I didn't see my daughter react negatively to being restrained. [Participant 3]*

These extracts showed that both participants were confident that the dental-staff was competent enough in treating their child. Thus, they accepted to use a papoose boards.

### 5.3.1.2. Communication: Dentist and child

Based on the discussions with the participants, it appears that the children who trusted their dentist accepted the papoose better as compared to the others, and they also seemed more

satisfied with its use. Good communication allowed trust and faithful relationship between them and the dentist, as depicted in the following passage:

> *I mean, they were very good with the speaking to her and the hygienist is fantastic. I mean, the way she speaks it would almost hypnotise me, you know. The way she would speak with my daughter through the whole treatment that helped a lot. I just started coming and everybody here is incredibly nice and obviously fantastic with children. So it's always been a very, very good experience. The dental-staff is always very calm even when my daughter is in extreme emotions like, you know, crying and moving around. The dentist is very calm and she's able to keep examining her that was great. And the hygienist, we had few different one's but they are all very, very good at talking to my daughter throughout and being very calm. And my daughter really likes coming here. In between her crying and her moments of crisis because she's overall anxious, then she calms down and she tells everybody. How nice they are and how she loves them so it's always been very, very positive experience. [Participant 2]*

Another participant praised the dental staff for their patience and efforts to communicate: "As they deal with the crying kids all day with great calm and patience not even slightest sign of anger on their faces". The participant said that their way of communicating with her and her child was well structured, clear and concise. It thus convinced her to opt for the papoose, as illustrated in the following conversation:

> *The communication between the dentist and the assistant was unbelievably good. You know, you could tell these guys have done it I don't know how many times before and kudos to them. I don't know how many interventions they do in a day. And they have to deal with the crying child from morning to evening. I mean hats off to them it's unbelievable. And they are joking they are keeping it light they are you know, talking reassuringly to the baby. You know, they are talking to a child. They got a training you can see that. The way they talk to a baby there movements you know, they are calm they don't do agitated movements. They don't make the movements that make the child nervous, so everything is calm. They are doing an intervention with their high power tools zzz…. But they are nice and calm talking softly saying: "can I have this, can I have that" and the instruments are going back and forth very slowly. Hey you know it's very reassuring for the parent. [Participant 7]*

Our findings so far made us realise the importance of effective communication. Proceeding further, we would like to share the experiences of another participant regarding the communication of doctors in general with her daughter. She observed that her child usually accepted a treatment better if the doctors communicated with her in a friendly manner. The doctor's behaviour affected the level of cooperation of her child, as exemplified below:

*If the doctor is calm and approaches her in a friendly manner, even though intellectually she is not there where she should be, she has a feeling. She knows, she knows, that, that person is friendly. Do you understand what I'm saying? Right now she [her daughter] has a paediatrician. She [paediatrician] greeted her by her name. She [paediatrician] actually spoke to her. She asked her how she was doing and than she was like, okay, "let's go we are gonna check you up" and my daughter didn't said a word. She was super happy. [Participant 4]*

This extract above suggested that it would have been easier for this participant and her daughter to accept the papoose if the dentists had tried to establish a trustworthy relationship with the child. The participant shared another incident with a neurologist that showed improvement in the cooperation of her child because of the doctor's way of communicating:

*Her neurologist was changed when she was three, she had triple brain surgeries they changed the doctors at that time. He's [new neurologist] okay yeah, she likes him, he's funny with her, so he laughs with her and he also treats her like human being so he talks to her. He doesn't just talks to me that the difference. [Participant 4]*

This parent used words like "treats like human being" that highlight her negative experiences with the doctors in general. In other words, someone talking in a kind and gentle manner to her daughter was a rare event as explained in the extract below:

*The other doctor will talk to me. He [the other doctor] would ignore my daughter. They will tell me: "I don't know how you do with the child like this. I wouldn't have been a day with the child like this", so yeah it's not the first time it happens all the time.*
*This is not something new to me, it had happened always. Once a neurologist said to me: "I don't know how you can have such a child. You leave her in one corner and she will die. There is no hope for her". [Participant 4]*

*I ask the doctor [physician] just, when I go to the dentist my daughter freaks out when she is put on the board tied down. He's [physician] like: "yeah what do you want, this is the way she is, that's what you have to deal with it". [Participant 4]*

These negative encounters with doctors and dentists had led to a dilemma in this participant's mind: are alternative treatment options available or changing their dentist might be better for her daughter? This participant also shared another experience with a health professional that emphasizes the importance of communication between the doctor and the child:

*She's been in the hospital since she was months old in and out. So anytime some one comes in with the white coat, she's terrified. I mean terrified of any one who comes with the white coat. They know, they know don't care. I mean yeah that's the way she*

*recognizes it, like, she won't know who you are, right but if you are wearing the white coat or you wear scrubs or whatever she knows. [Participant 4]*

This participant added that if the dentist had been compassionate with her and her child, their experience with the papoose would have been better.

### 5.3.2. Introduction of the papoose as a solution to the problem being encountered

During our study, we realised that the parents accepted the papoose if it was introduced as an option and not forced on them, as they wanted to have some authority in deciding their child's treatment. If proposed as a solution to the problem while treating their children, parents took the papoose positively. A few participants felt that they were completely involved in the decision-making process: they explained that the dental team introduced the papoose as an option when treating their child had become difficult, and that they were given time to make a decision. They never considered that the papoose was forced on them, as illustrated by the extract below:

*We didn't use it [papoose] from the day one. It's only after several, several years that it was introduced to us as a solution to the problem we were encountering to treat my daughter. It was introduced as an option if I want it. So, nobody ever said to me: "we need to use this" it was always like, "we [the dentist] have this if you wanna try it, we [the dentist] can try but it's completely up to you" so it was my decision. But nobody ever said that it was needed. So if I had said: "No" I didn't feel like, umm you know, that they [dentist at the clinic] wouldn't have treated my child. And I felt that I could say, "No" if I wanted to, but I was open to it. So nobody ever said it was needed. [Participant 2]*

The following quotation from another participant describes a similar experience:

*When they [dentist at the clinic] started to have the difficulty in treating my daughter, I was introduced to the papoose. It is on that appointment they told us it's a type of sleeping bag that would help keep her more like restrained. That's when we saw it for the first time. We say: "we didn't have an issue and we would like to give it a try". Then we were made next appointment. I believe they made me sign some form of release as they do with everyone. [Participant 3]*

There was one more thing common between these two participants, apart from having the power to decide using the papoose: they were parents of a child with disability. Their experiences were different from those of other parents because the papoose calmed down their child. Therefore,

they advocated in favour of the papoose and wished to use it in all future dental appointments. In our study this finding holds for two out of three participants having a children with disability.

### 5.3.3. Time

Participants talked about time in two ways: firstly, they mentioned lacking time for making a decision. Secondly, they judged that dentists used the papoose to gain time and treat more patients in less time (i.e. they are money-minded).

Participants reported their role in the decision-making process: most felt that they were not given enough time to decide whether to use the papoose or not. One parent even felt "helpless with no choice". One reason behind these emotions was his lack of information regarding the papoose: he was not introduced to the papoose before and was unaware of what it looked like or how it worked. By the time this participant realised that he did not want the papoose, his child was already wrapped in it and the treatment was well advanced. This finding is clarified in the following passage:

> *Actually, no one explained it to me before what it [papoose] will be and how it works. It's only during our appointment we were told about it. At that time I don't know how to make the decision. After waiting so long for our appointment, sitting at the hospital waiting area for our turn and than just decide that, "I don't want it, let's go". It's difficult to do, so it's better if they tell us about it before, so that we can make decision. [Participant 1]*

Another participant shared similar views: the dentist made the decision in a great rush, and she was unable to recall being asked to give her consent. After the appointment, she realised that she did not want the papoose to be used on her child. This parent was dissatisfied because she lacked knowledge about the treatment procedures and was not well informed, as depicted in the following extract:

> *I was kind of shocked and really shocked. The thing is that they had already started working on my daughter's tooth and then in the middle of it she started to be un-co-operative and they said: "we have to now finish it, otherwise it's a problem." Everything you know was going so fast and they said: "we have to put her in this bag [papoose]", and I guess they did asked me if this is ok and I said: "yes" but I don't remember. But all of a sudden my girl was tied down and they were finishing their work and straight than after that they gave me a paper and I have to sign it and I was like saying "what am I signing?" and they said "consent to have this" and I just signed it. But afterwards when I was thinking about everything that happened in the clinic, it bothered me that I didn't had the time to go over it and didn't even knew what it was I was saying, "yes" to.*

*Maybe if instead of the rush of everything, even though the tooth was open and it had to be fixed immediately, maybe just a few minutes to breathe in and out and calmly explain and go over things and then make the decision. In the rush there was never time to make the decision. There was never time to calm my girl down. So it's kind of maybe that would be the one thing in this situation when the child is really upset that you can say: "no, everybody just calm down, just take a step back" because sometimes it is only this thing that is needed is just 10 seconds of a hug and then we have to do what is needed and we do that. Probably the child would say: "no and don't want to do it", but you had given her that comfort of "mommy is here". You know, it's that just in a rush, if you take a little bit of pause that would be better, and even it would give me the chance to make a decision. You know, because I really didn't feel that I made any decision because it was all a rush. But I don't know why it was such a rush, maybe it was really important that it was needed to be done immediately you know, wouldn't delay a second. It might have been like that, I don't know because I'm not the dentist. But I think that in any situation it is possible to pause. [Participant 6]*

## Business perspective

These participants also felt that, in Canada, dentists tended to have a business perspective and so used the papoose board to treat more patients in less time. One of them described the use of papoose as "rentable", "money-making":

*It's [papoose] quite faster and making more money, so I think it's about money because we can't hide that dentistry is about money for professionals. In North America money is the first. [Participant 5]*

This participant also shared her experience with one of her family member who is dentist in France. In the following extract, she describes French dentists' approach towards children:

*Yes she [family member in France] said: "of course there will be first meeting, you show everything to the child. You explain what is going to be done. You make a little test to him, to say, okay it's not hurting and just carving the knife and just the sensation and after that you come back and you begin to work". She [family member in France] said: "of course it's lot of time for no money but that's the way it is in France". [Participant 5]*

As described in this quotation, this participant thought that dentists in France spent more time in developing relationship with the children keeping the first dental visits exploratory to acclimatize the child with the dental clinic. This participant also thought that, in comparison, dentists in North America tended to extract teeth rather than trying to save them. As exemplified below:

*It is just habit: "okay, there is a problem with the tooth, okay, take it off" and of course after that you are great client for implant, so it's a business you know. [Participant 5]*

Another participant said that using the papoose was a simpler and faster way of completing the treatment for the dentist compared to developing trust with the children. As revealed from the following text:

> *It's easier to constrain the child and have it done quickly for the dentist and everyone involved. It's harder if you try to talk with the kid. The dentist needs to give more time more appointments and you know it's difficult to develop the trust. And I think may be money has a lot to do with that because like, if you want to use the strategies of building the trust and trying to make the child comfortable and have a connection with the dentist it takes time. And you have to come often and you have to be calm and you have to have time that the child needs but that would mean to have more money, that means to have more dentist. [Participant 6]*

## 5.4. Confrontation of expectations due to past experiences

In our study we noticed that the participants that recently immigrated to Canada compared the people and the dental health care system of the two countries.

### 5.4.1. Comparison amongst the people of different countries:

One participant originating from Sweden described people in North America as more practical, rough and strong. In order to understand her feelings, let us see the extract from our conversation:

> *In the schools here [in Canada] the environment is really different. The way the teacher and the parents are not really warm towards the children. And the school is kind of closed to the parents. In Sweden you were invited to come. You can drop in anytime. You can come and visit your child. You don't even have to ring a bell to come in everything is open. You know, so it's just different kind. And also with the day care, I think I'm the only parent that fought for the right. I go in with my daughter, I help her to take off her clothes and than I say good-bye instead of leaving her or putting her crying in the arms of the teacher. I would say my experience over here on the whole is that people are tough and rough and the kids just say good-bye and goes inside of the school. In Sweden you know the child should never cry (laugh). So I don't know it's little bit different here and with the papoose I think it's ok if this is the way they do it here and I'm here so I have to do it that was my feeling and then afterwards, I was thinking if there may be an alternative, I didn't knew about. [Participant 6]*

This extract suggests that this person believed that people in Sweden express their emotions more than parents in Canada. According to her, parents in Sweden do not want to put their

children in difficult situations like using a papoose. On the contrary, parents in Canada prepare their children to deal with the tough situations.

### 5.4.2. Comparison amongst the dental treatment strategies used in different countries

Two participants originally from Sweden and France were not satisfied with the use of the papoose in Canada. According to them, the main reason to disapprove the papoose was that they had not experienced it in their home country. These participants experienced the following treatment approaches in their countries: distraction and passive restraints.

#### 5.4.2.1. Distraction

As narrated by one of the participant, her dentist in Sweden distracted her child by playing some game; so the child never felt that she was anaesthetized with a syringe. Consequently, both the child and the parent were satisfied with the treatment strategies used in Sweden in comparison to the ones used in Canada.

Following is the extract from our conversation with the participants in which she shared her dental experiences in her native country:

> *Yes they [the dentist in Sweden] made a play. They [the dentist in Sweden] had a parrot [the bird] puppet and the puppet come and bit in the nose of my daughter. They made a play. And it was just, they were just really concentrating on that and she [her daughter] was not aware on anything, so that was my best experience. I thought: "wow you [the dentist in Sweden] can do this". They [the dentist in Sweden] kind of did it in a way that she [her daughter] never felt any discomfort at all. They [the dentist in Sweden] put the needle. My daughter later refused that she ever had the needle because she never knew. [Participant 6]*

#### 5.4.2.2. Passive restraints

A participant shared her experience in France where parents themselves restrained their child instead. Therefore, this participant was uncomfortable to see her two years old daughter tied with the papoose.

As shared by this participant the dental experience of her childhood in France:

*I passed through this process when I was the child in France. I was only sitting on the knees of my mother, no anaesthesia. I was 2 years old. She [participants mother] was blocking my arms and than the dentist was working in my mouth like that. And she [participants mother] said: "of course the two, three first meeting you were moving a lot but after that you understood, that's the way it is" and so I never had the anaesthesia and I was 2years old. But here in Quebec people they say, they are not comfortable working without any anaesthesia even though local anaesthesia, so I have to accept that [anaesthesia] and the papoose. So it's quite an experience it's your baby because she is 2years old. The fact is that I, I find it difficult for the child not be in his parents arm. And that's my point but my options are not so very huge so I said: "yes to papoose". [Participant 5]*

# 6. Discussion

## 6.1. Summary of results

Our study was designed to better understand the perspectives of the parents regarding the papoose boards. Within our sample, three principal findings can be identified: firstly, parents' experiences related to the use of papoose board on their children; secondly, parents' role in decision-making and factors guiding their decisions and thirdly, confrontation of expectations due to their past experiences.

### Parents' experiences related to the use of papoose board on their children

Our study showed three categories of parents' experiences: (1) against the use of the papoose; (2) in favour; and (3) at the margin. After talking to all the participants, we came across a common finding: parents whose children showed improvement in their level of cooperation with the use of the papoose were more satisfied with its use. On the contrary, parents whose children behaviour worsens with the use of the papoose opposed to its use. Our findings showed that the parents in favour of the papoose were satisfied because it not only calmed their child but also helped the dentist to complete the treatment. They considered the papoose to be harmless, safe for their child, and a brilliant device allowing the dentist to work efficiently by restricting the bodily movements of their child. This finding supports another study that concluded that parents considered the papoose to be useful for completing the treatment of their child (85).

On the other hand, another group of participants considered using the papoose boards as betraying the trust of their child, which they found horrible and aggressive. This is consistent with the results of various studies that analysed parents' acceptance of various BMTs: in all these studies, parents rarely preferred the use of papoose boards (3, 75-83). The remaining participant was at the border of liking the papoose, which she initially considered as aggressive; but in comparison to sedation or general anaesthesia, she eventually felt it was helpful in teaching the children about the importance of their teeth. This is consistent with the studies in which parents ranked the general anaesthesia and conscious sedation as a less preferred technique in comparison to the papoose board (77, 111).

## Parents' role in decision-making and factors guiding their decisions

Our study showed three inter-linked factors that guided parents' decision-making process and acceptance of the papoose: (1) their communication with the dentists; (2) the introduction of the papoose as a solution to the problem being encountered; and (3) time given to them for making a decision.

With respect to the first and third factors, we found that parents expected from their dentists to communicate effectively with them, to give them time to decide, and to provide knowledge regarding alternative treatment procedures. In other words, if the parents felt that their dentist had answered all their questions and explained alternatives (3, 34, 81, 84-88, 112), they tended to be satisfied with the use of the papoose board. This is consistent with the study conducted by Carroll and colleagues (113) that shows that parents' 'honest and compassionate' communication with their clinicians influences the decision-making process (113-115). In addition, parents in favour of the papoose considered their dentists to be professionally competent. These findings concur with another study suggesting that it is difficult for the parents to judge the technical competence of the dentists; their assumptions are thus based on the 'interpersonal factors' of the dentists like communication skills, empathy towards the patients, and discussing the treatment options (116).

On the opposite, lack of communication between dentists and parents and having little time for making a decision result in parents' dissatisfaction (116) and their perception of dentists as business-oriented people. One review article concurs with this finding: it reports that patients perceive dentists as money-minded or 'greedy' if their expectations regarding treatment care are not satisfied. Also, parents consider their dentists' selfishness as the reason for high dental treatment cost (114). The literature also suggests that a lack of communication is a major reason for patients' non-adherence to the treatment and desire to change doctor (117). One of our study participants shared a similar perspective and wished to change her dentist because of a communication gap.

According to the second factor, parents in our study desired to share equal power with the dentists in making decisions and wished their perspective to be valued. They wanted the papoose to be introduced to them as an option when it became difficult to treat their child. Moreover, the parents' desire to be more involved in all the stages of their child's treatment included: (1) making the decision regarding the treatment procedure; (2) being present in the

operatory throughout the treatment to calm their child. This suggests the change in the role of the parents from being just spectators to sharing power with the dentists. This suggests a change in the dentist-patient relationship towards person-centered care (4).

## Confrontation of expectations due to past experiences

In addition to the findings that directly respond to our objectives, the parents that were recent immigrants also bought up an additional topic: the comparison of treatment strategies between their country of origin and Canada. These parents had previous dental experience in their country that they compared with the dental encounters in Canada. They had prior experience of less invasive treatment procedures to treat their children like distraction and tell-show-do (TSD), and were thus against the use of the papoose board. These findings were in line with studies conducted in several countries: in the UK, papoose boards are seen as completely unacceptable (42); in Australia, active restraining by the parents is preferred in comparison to passive restraints (49, 55); in India, the use of passive restraints has been discouraged in the past decade due to an increase in parental awareness regarding their rights and alternative treatment options (57).

Our findings can be discussed from the standpoint of shared treatment decision-making approaches and communication differences across cultures. The literature presents various treatment decision-making models, from the paternalistic model, to the informed decision-making model, the professional-as-agent model, and finally to the shared decision-making model (118). Over the past few decades, there has been gradual shift from the paternalistic to the shared decision-making model. In paternalistic approaches, the doctors played the role of guardians to their patients and had the power in treatment decisions (5). On the contrary, shared decision-making requires continuous mutual communication between the patients and the doctors (118, 119). It should include: (1) sharing of the information regarding the treatment procedures, alternatives and consequences; and (2) equal power of treatment decision-making between the patients and the doctors (118). Thus, empowering the patients indicates a shift towards patient-centered care (120). This approach has been recommended by the Institute of Medicine (IOM) as one of the vital approaches in the USA for improving the 21$^{st}$-century health care system (121). The IOM defines patient-centered care as “care that is respectful of and responsive to individual patient preferences, needs, and values” and that ensures “that patient values guide all clinical decisions” (120). A clinical model of “person-centered dentistry” has also been proposed and

support our findings (7). It emphasizes the patients' desire to be heard and have 'equal-powered relationship' (7). Understanding patients as a whole is important to treat them successfully as it provides insight into their fears, anxieties, and beliefs. The dentists should act as advisors, and provide autonomy to their patients for making decisions, and develop trust with them (7). Patient-centered care values listening to the narratives of illness and being empathetic for the patient's experience (122).

In our study, among the immigrant participants, we identified common factors that could influence their experiences regarding the papoose boards and their dentists: (1) their lack of competency in English/French; (2) their cultural beliefs regarding oral health; and (3) the duration of their stay in Quebec (123). Our findings are consistent with another study in which authors speculate that the 'partial acculturation' of the recent immigrants prevents them from developing trustful relationship with their dentists (123). One of the reasons behind this mistrust is that immigrants lack competency in the official language of their migrated country. Hence, they could not effectively communicate with their dentists. Apart from the linguistic barrier, their beliefs influence their decision to seek dental care (123). This suggests that it is important for the dentists to have awareness of different cultural beliefs and take them into account to gain trust and provide patient-centered care.

Thus, understanding patients' perspective of illness is very important for their satisfaction and is influenced by factors like sharing the power and cultural beliefs.

## 6.2. Limitations of our study

Our study has been conducted in one of children's hospitals in Montreal, Quebec, Canada, and as such our results should not be generalized to other social, political or cultural contexts. Nevertheless, if other provinces or countries share some of the characteristics of the Quebec health care system and its regulations, our results may be transferrable to their contexts.

Another limitation of our study is that we only focused on parents' experiences regarding the use of the papoose boards. Hence, we are still unaware of the children's perspectives on papoose board. Also, we do not know dentists' views on their experience and the factors that guide them to use the papoose boards. Further research is thus needed to explore the perspectives of children and dental health professionals regarding the use of the papoose boards during dental treatments.

## 6.3. Recommendations

Our study illustrates parents' experiences regarding the use of the papoose boards on their children. As evidenced in our findings, the factors related to the dentists like communication, time, and sharing power with the parents' for making decision have a major influence on their experiences. Our recommendations for dentists, dental schools and dental educators are as follows:

- We recommend that dentists put much effort in communicating with the parents and take time to discuss with them all possible treatment alternatives. The literature actually suggests that effective communication between dentists and parents improves the treatment acceptance by the latters (3, 34, 81, 84-88). Communication gives patients the feeling of being important and develops trust with dental health professionals. This can be facilitated by the following actions: greeting the children at the clinic in a welcoming and friendly manner like warm smile/shaking hands, memorizing their first names, listening to their concerns, explaining and demonstrating the treatment to them on models.
- We invite dental health care providers to reflect on their current treatment strategies. In particular, we suggest that dental residents at the Children dental hospital receive additional teaching on less invasive BMTs like communication, modelling, and tell-show-do (TSD). This could help them in managing the paediatric patients without the papoose.
- With respect to the papoose board, we suggest that dentists show it to the parents prior to starting the treatment and explain how it works. This would facilitate the decision-making process for current or future appointments and give the parents time to prepare themselves as well as their child for the papoose.
- We recommend that dental schools provide education to develop cross-cultural competence (117). This might help the young graduates to effectively communicate and satisfy their patients with diverse cultural backgrounds.
- Our findings made us realise that each child is unique, so they could have different reactions with the same treatment strategy. Dentists should be conscious about this and be flexible in their treatment approach to respond to the needs of each patient.

# 7. Conclusion

This study was designed to describe and understand the lived experiences of parents regarding the use of papoose boards on their children during dental treatment. The literature on parental acceptance of papoose boards suggested that parents rarely preferred its use on their children. Yet, a detailed description and explanation of the parents' experiences and the factors behind was lacking. This is why we attempted to understand the experiences and reasons that affected parents' acceptance of the papoose.

Overall, our findings fall into three main categories. First, the parents' experiences related to the papoose boards varied: whereas some participants considered the papoose as a useful device, others were strongly opposed to it and found the experience awful or extremely unpleasant. Second, the decision-making process to use the papoose was an emotional experience for the parents; they considered that the communication with the dentist was a key element of this process. Third, some parents, who were immigrants, had expectations due to their previous experiences in their country of origin and were disappointed by the approach of dentists in Canada.

Dental health professionals thus need to communicate well with the parents regarding the papoose board, give them time for making a decision, and establish good rapport with the children. Dentists may also need additional training to manage paediatric patients. We hope that this work will encourage dental professional and dental schools to put emphasis on these elements.

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# 9. Appendix A- Interview guide

## Introduction:

Thank you for accepting to take part in this study. The purpose of our discussion is to explore your experiences regarding the use of papoose board on your child during dental treatment.

1. Can you describe in as much detail as possible everything you remember regarding your experiences so far with the oral health treatments of your child?
    - What is the age of your child?
    - What kind of treatment did your child required?
2. Can you describe in detail your 1st dental visit (to some other dental clinic/ children's hospital)
    - Your feelings before the appointment
    - How appointment was made?
    - How you reached?
    - On reaching at hospital?
    - Your feelings during/after the appointment
    - Could you describe your feelings before/during/after your encounters with your child's dentist?
    - Could you describe in detail your last dental visit to the children's hospital?
    - What were the reasons for your visit to the hospital?
    - Probe: Would you explain that further?
    - Can you describe your feelings in detail before/during/after the visit?
3. Parents experiences related to papoose board during the dental visit:
    - Can you explain how the decision was made to use the papoose board?
    - What other treatment options were tried before suggesting papoose board?
    - Was your last visit was your 1st encounter for papoose board? IF NOT, can you describe your 1st encounter with papoose in detail
    - Can you elaborate/explain more….

- What you feel is the reason for the dentist to choose papoose board during treatment was that reason well explained?
- Were you there in the clinic when papoose board was used on your child?
- Can you describe in detail your reaction/feelings during the use of papoose boards on your child? Please explain- what was going on in your mind at that time?
- Can you describe any other/similar situation in your life when you had undergone same emotions
- Was papoose board used on 1st dental visit?
    - Yes: what kind of treatment?
    - No: so when and for what kind of treatment it was used?
- Was papoose board used with medication or without medication? Why?

4. Child experiences related to papoose board as described by parent:
    - Could you describe your child's reaction regarding the papoose board?
        Before treatment
        During treatment
        After treatment
    - Your child reaction day before the second dental visit
    - Is their anything else you would like to share with me?

5. How the use of papoose boards has affected you/ your child. Describe in detail?

6. In general what do you think about using papoose boards in treating children

My questions are finished. There are also some demographic questions. I would like to ask you some background information about you and your family.
The answers will be kept confidential. If some questions you are not comfortable answering it is completely fine not to answer.

## Socio-demographic data:

1. What is your Name:
2. What is your Age:
3. Relation with the child:
4. What is Age of your child:
5. What is Gender of your child:
6. What is your Spoken language/ Primary language (s):
7. What is your Country of origin:
8. Do you have dental insurance:
9. What is the highest level of education you have completed?
10. What is your total household annual income in Canadian dollars?

    Less than $30,000

    $30,000 to $49,999

    $50,000 to $69,999

    $70,000 or more

    Would rather not say

11. What is your Address/ Neighbourhood?

Thanks a lot once again for giving your valuable time. It will be definitely helpful for the dentists in developing treatment strategies that will improve children's dental experience.
Is it okay if after looking into my notes and listening to our conversation I feel the need to ask you some question can I call you?
Thanks once again.

# 10.Appendix B- Consent form

**- Information and Consent Document -**

Study Title: **Parents' experiences regarding the use of papoose boards on their children during dental services**

MUHC or McGill Study Code: **5430**

Principal Investigator: **Beatriz Ferraz dos Santos, co-Researcher Director**
**Division of Dentistry, MUHC - Montreal Children's Hospital**

Co-Investigators: **Dr. Christophe Bedos,** Associate professor, Division of Oral Health and Society, Faculty of Dentistry, McGill University
**Dr. Richard Hovey,** Associate professor, Division of Oral Health and Society, Faculty of Dentistry, McGill University
**Dr. Félix Girard,** Assistant professor, Department of Oral Health and Faculty of Dentistry, Université de Montréal
**Pooja Malik**, MSc. Candidate, Division of Oral Health and Society, Faculty of Dentistry, McGill University

Department/Division: **Dentistry/Pediatric Surgery**

Study Sponsor: **Departmental funds**

**Introduction:**

We are inviting you to take part in a research study regarding use of papoose boards during dental treatment. Papoose board is used to manage uncoperative child during dental treatment. We want to understand your lived experience of papoose board being used on your child and how you were involved in decision making process. Your involvement in this study will provide us insight into your and your child's experiences regarding papoose board. Moreover, it will

guide us to provide better services to the child. We would greatly appreciate your help with this study. However, before you decide and sign the Information and Consent Document, take the time to read, understand and carefully think about the following information.

**Nature and objectives of the study:**

Our purpose is to understand parents' experiences regarding the use of papoose boards during dental treatment. This is why we are inviting you to share your experiences with us. Your experiences are valuable for us because they may help us providing better dental care to children.

**Study procedures:**

Your participation is voluntary. You have right to withdraw your consent or discontinue participation at any time without any sort of penalty. You also have the right to decline to answer any questions. If you decide to withdraw, you can choose to have the information collected to this point destroyed.
If you agree to participate, the interview will last no more than 60 minutes and will be like an informal discussion. We would like to audio-record the discussion because it will be difficult to write accurately what you will say. The discussion contained in the audio recorder will then be typed, and then the audio file will be destroyed. Should you have any concerns, you can ask questions at any time. You are free to choose convenient place for interview, such as home or place nearby. Interview can also be conducted at McGill University or at the MCH.

**Risks of harm:**

There are no foreseeable risks involved with your participation. This said, you might feel mild discomfort while recalling dental visits during the interview.
Your participation in this study will not have any effect on the treatment provided to you or your child at the Montreal Children's Hospital.

**Possible benefits:**

You may or may not personally benefit from your participation in this research project. However, we hope that the study results will contribute to the advancement of scientific knowledge in this field and help us find may help us provide better dental services to children.

**Voluntary participation and the right to withdraw:**

You may choose whether you would like to take part in this study. Even if you choose to participate in this study you can stop at any time. Your decision not to participate will not influence your child's dental treatment.

**Confidentiality:**

While you take part in this study, the study researcher and team will collect and take down information about you in a research study file. Only information necessary for the research study will be collected.

All the information collected about you during the study will remain confidential as the law demands. To protect your privacy, your information will be identified with numbers and or letters. Only the researchers in charge of the study know the numbers and or letters that link them to you.

The study researchers will use the study information collected about you for research purposes, only to reach the study goals as they are explained in this Information and Consent Document. Your information will be kept by the researcher who is in charge of the study for seven years in a locked cabinet at the Division of Dentistry of the Montreal Children's Hospital and at the Faculty of Dentistry, McGill University. After seven years, the information related to you and your child will be destroyed.
The study information could be printed in medical journals or shared with other people at scientific meetings, but it will be impossible to identify you.

**Contact information for questions:**

If you have any questions or if you feel you have a problem related to taking part in the study, you could communicate with the researcher in charge of the study.

**Principal investigator (MUHC site):** Dr Beatriz Ferraz dos Santos, at (514) 412-4479 ext.23357 or at beatriz.ferrazdossantos@muhc.mcgill.ca.

**Principal Investigator (McGill Faculty of Dentistry site):** Dr. Christophe Bedos (514-398-7203 Ext. 0129) E-mail: Christophe.bedos1@mcgill.ca.

**Student investigator:** Dr. Pooja Malik (438-993-3913) E-mail: pooja.malik2@mail.mcgill.ca

You may also contact the Patient Representative (ombudsman) at (514) 934-1934 ext. 22223.

**Oversight of the ethical aspects of the study:**

The Research Ethics Board of the McGill University Health Centre approved this study and is responsible for following the study and making sure that you are protected. Before any change is made to the Information and Consent Document or to the study, it has to be approved by the Research Ethics Board.

**Participant consent:**

1. I understand that this is a research study.

2. I have read all the pages of the consent form.

3. I have been informed that my participation is entirely voluntary and that I may refuse to participate, or withdraw at any time, without consequences to my dental care in this institution.

4. My questions were answered to my satisfaction. I was given the time to think about whether I want to take part in this study.

5. I agree to take part in this study according to the conditions set in this Information and Consent Document. A dated and signed copy of this Information and Consent Document will be given to me.

Name of participant: _____

Signature _____Date _____

**Person(s) who conducted the study and consent discussion:**

I have explained to the participant the conditions of taking part in the study as stated in this Information and Consent Document and I answered all her/his questions.

_____ _____ _____

Name of the person who obtains the consent Signature Date