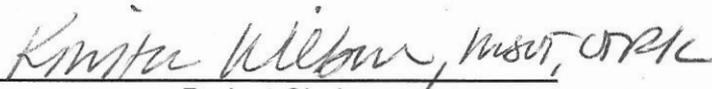
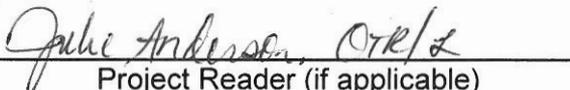


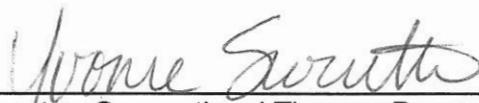
Non-Verbal Resource Kit for Center Asays in Morocco

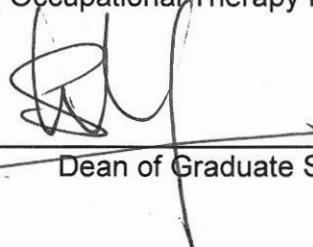
May 14, 2015

This project, submitted by Heidi Vladyka and Christina Reyer  
has been approved and accepted  
in partial fulfillment of the requirements for the degree of  
Master of Occupational Therapy from the University of Puget Sound.

  
Project Chair

  
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### Abstract

Cerebral Palsy (CP) is a common neurological disorder caused by injury during brain development. The impairments commonly associated with CP include motor and sensory deficits that can significantly impact all areas of occupation, especially ADL. In countries such as Morocco where the number of healthcare facilities is limited and languages vary, the burden on families to access appropriate care and education can be challenging. Center Asays in Morocco serves children with CP and requested a DVD for caregivers to provide education on proper positioning for both the child and caregiver during ADL. This project created a DVD that includes instruction for lifting and carrying, range of motion, grooming, sleeping, feeding, and dressing. The DVD is available for the caregivers to watch in the waiting room during therapy sessions and corresponding handouts are provided to increase retention of the information. Through communication with the clinic director, it appears this resource has met needs of the clinic and families.

### Keywords:

Cerebral palsy, Morocco, non-language based, non-verbal, language barrier, occupational therapy, caregiver, safety, body mechanics, activities of daily living (ADL), cultural competency, video modeling

## **Introduction**

Cerebral palsy (CP) is a common neurological disorder caused by injury during brain development that affects close to 4 out of 1,000 live births globally (Cerebral Palsy International Research Foundation, 2013). Families who have children with CP face challenges that can be difficult without assistance and insight from health care professionals. In countries like Morocco where the number of healthcare facilities is limited, the burden on a family to seek appropriate care for a child with CP may be particularly challenging. Little data pertaining to the prevalence of CP in Morocco can be found, which may be tied to negative social implications that come from having a child with a disability in the Muslim culture (Hasnain, Shaikh, & Shanawani, 2011).

In Morocco, many families must travel long distances to reach therapy clinics that may help support their child's participation in occupations of daily living (Ruth Boswell, personal communication, April 11, 2014). Healthcare providers at these clinics often speak a different language than the family, creating difficult language barriers to overcome (Ruth Boswell, personal communication, April 11, 2014). Ruth Boswell, a physical therapist from the United States working in Morocco, saw an unmet need at the non-profit clinic Center Asays, in which she works. Using an occupational therapy lens and framework, a non-verbal resource was developed to increase meaningful participation in roles of caregivers as well as assist children in the occupation of activities of daily living (ADLs) (American Occupational Therapy Association [AOTA], 2014). This resource will help caregivers to develop body positioning habits in a variety contexts and environments (AOTA, 2014). Moroccan families will be provided access to this resource through a DVD to be played in the clinic waiting room, in addition to the paper handouts for reinforcement at home.

## **Background**

### **Causes of Cerebral Palsy**

Literally translated, CP means "brain paralysis", and is a non-progressive permanent disorder resulting from a lesion to a premature brain (Bleck, 1982). Cerebral palsy is commonly marked by

limitations in mobility, hand function and other neurological dysfunction (Hoon & Tolley, 2013).

Impairments typically surface and are diagnosed within the first two or three years of a child's life based on the presence of delays in motor development and distinct neurological abnormalities (Vogtle, 2006).

Developmental disturbances may occur during pregnancy, during birth, or shortly after birth. Prenatal causes of CP include maternal infections during pregnancy (e.g. rubella, shingles, or parasitic infections), fetal anoxia, Rh incompatibility, prematurity, or metabolic disorders (Bleck, 1982). Perinatal cause(s) of CP include trauma during labor or lack of oxygen (Bleck, 1982). Postnatal causes include head injuries, meningitis, sudden brain hemorrhages or clots, cerebral anoxia, or brain tumors (Bleck, 1982). Although rates of at-risk preterm infants are dropping, the comprehensive worldwide prevalence of CP is still 2.11 for every 1,000 live births (Oskoui, Coutinho, Dykeman, Jetté, & Pringsheim, 2013).

### **Classifications and Presentations**

The American Academy for Cerebral Palsy has classified the type of disorder according to the movement as well as according to the limb involvement (Bleck, 1982). The physiological classification considers motor factors such as spasticity, athetosis, rigidity, ataxia, tremor, and mixed. Cerebral palsy is further classified by topographical locations, including monoplegia (paralysis of single limb or muscle group), hemiplegia (paralysis of one side of the body), paraplegia (paralysis of lower half of body), diplegia (paralysis of corresponding parts on both sides of the body), triplegia (paralysis of three limbs), tetraplegia/quadruplegia (paralysis of both arms and both legs), and double hemiplegia (paralysis of similar parts on both sides of the body) (Bleck, 1982). Other symptoms associated with CP include language deficits, visual disorders such as hyperopia, sensory loss, seizures, cognitive deficiencies, perceptual difficulties, and visual-motor disorders. Secondary complications that arise as a result of extremity malfunction and continue to evolve across the lifespan include difficulties with ambulation, balance, and positioning, as well as deformities of the limbs, pelvis, and spine (Bleck, 1982). These associated limitations often worsen with age and shorten the lifespan of individuals with more severe impairments (Vogtle, 2006).

**Feeding with Cerebral Palsy**

Children with CP often have difficulty performing ADLs and participating in play activities due to impairments in limb function as well as other physical and/or cognitive disabilities (Sakzewski, Ziviani, & Boyd, 2014). Therapists who work with these children must understand the biomechanical and kinematic components required by normal activities of daily living (ADLs) (Lanzetta, Cattaneo, Pellegatta, & Cardini, 2004). Children with CP may experience difficulty engaging in meaningful activities, such as feeding, toileting, and bathing, due to motor deficits impacting their ability to position, reach, grasp, hold, release, manipulate, push, pull, shove, displace, or fixate. These movement patterns are commonly used in ADL and functional tasks, increasing the importance for occupational therapists to know which components of movement are involved in children's desired occupations (Lemmens, et al, 2014).

The same study by Lemmens et al. (2014) studied important goals children with CP aged 6-19, in which feeding (e.g. cutting meat and using cutlery) was ranked as one of the most important activities (Lemmens et al, 2014). Feeding requires several body systems to be working together efficiently, including control and coordination of muscles involved in sucking, biting, chewing and swallowing, sensory perception, gut function, heart and lung support, as well as neurological integration (Bower, 2006). Children with spastic CP may have problems with aspiration due to atypical sensation, atypical tone, and poor motor control of the upper extremities. Furthermore, one of the two most powerful prognostic factors of life expectancy for children with CP is feeding skills (Strauss, Shavelle, & Anderson, 1998). Several simple techniques to help reduce common feeding difficulties and encourage a more positive feeding experience include proper positioning, providing jaw support to optimize oral-motor function, pacing the activity, and providing increased social attention during the activity (Dormans & Pellegrino, 1998).

Correct positioning and body mechanics during feeding is crucial for both the child and caregiver. A recent survey (Byrne, Hurley, Daley & Cunningham, 2010) conducted with over 160 parents who

provide care to children with CP revealed poorer health conditions of these caregivers compared to the average population. Rates of reported bodily pain were higher in women respondents as well as for those who cared for more dependent children (Byrne et al., 2010). These elevated rates of bodily pain may be attributed to the increased physical demands required of the caregiver to carry out everyday tasks with a more dependent child (Byrne et al., 2010). Caregiver injury may negatively impact the crucial care the child receives if the caregiver is no longer able to fulfill his or her caregiving responsibilities safely (Bruns, 2000).

### **Cerebral Palsy in Morocco**

**Disability and the Muslim perspective.** The majority of the Moroccan population is Muslim and may have different perspectives on disability than people in westernized countries. For example, families can view having a child with disability as a matter of fate (Hasnain, Shaikh, & Shanawani, 2011). A study by Armstrong and Ager (2005) uncovered the Muslim perspective that disabilities were sometimes seen to be a punishment from God for poor character and therefore brought embarrassment to the family. Personal communication with a resident in Morocco expressed a similar attitude, stating in respect to families who have a child with a disability, “shame is an issue for many” (Dan, personal communication). However, it should also be noted that a diversity of opinions and reactions exist within Muslim culture, ranging from denial of the disability, conviction that treating the disability is not worth the time and effort, acceptance of the disability and attributing it to fate, families lowering expectations of their child because of his or her disability, hostility and fear, to pity (Hasnain, Shaikh, & Shanawani, 2011). Individuals with physical disabilities are generally more accepted by their families and communities than persons with mental disabilities (Hasnain, Shaikh, & Shanawani, 2011). Many Muslims believe they have a religious duty to care for those weaker than them. This may lead some parents to compensate for and underestimate the abilities of their children to independently perform daily activities (Hasnain, Shaikh, & Shanawani, 2011). As a result, this may delay the child’s skill development. Many children and adults with disabilities in Muslim communities are kept at home and excluded from social interactions. Greater

emphasis may be placed on their disability rather than strengths, and independence is generally not encouraged (Hasnain, Shaikh, & Shanawani, 2011).

**Families in Morocco.** Parents of children with CP in Morocco may have high stress living situations that are compounded by having a child with a disability. Family education levels and language barriers with healthcare providers may result in frustration when trying to provide the best care possible for the child. Many health care providers working in Morocco speak English, Spanish or French while Moroccans may speak any one of the many dialects of Arabic. Furthermore, illiteracy rates are high at 43%, of which 55% are women (Semlali, 2012). Reports indicate that the national poverty rate in Morocco in 2007 was 9%, with the average in rural areas at nearly 15% (Semlali, 2012). These factors combined indicate that family members of children with disabilities may not be fully absorbing the information health providers share with them. Research shows that clients may not retain much of the verbal information given to them during health appointments due to a combination of language barriers, anxiety, and stress (Kessels, 2003).

Stress levels may be elevated in families with a child with CP and are associated primarily with difficulties surrounding child behavior, the impact the disability has on the family's time, and emotional well-being (Majnemer, Shevell, Law, Poulin & Rosenbaum, 2012). Family members are crucial aspects to a child's life and provide much of the care outside of the clinic. The health of the child can negatively affect the stress level and coping abilities of the family. Variables that are associated with lower levels of family stress include social and family supports, access to respite services, and high self-esteem (Majnemer, Shevell, Law, Poulin & Rosenbaum, 2012). As the majority of a child's time is spent outside of therapy, developing clear lines of communication between the parent and therapist is paramount. A parent-therapist-child relationship built on trust and mutual respect is a strong support to understanding the family's goals, values, and unique circumstances (Wiar, Ray, Darrah & Magill-Evans, 2010), thereby providing them with the skills they need to best care for their child at home.

**Barriers to therapy in Morocco.** Often children with disabilities and their families are either overlooked by the health care system or denied proper care. Morocco is one of 57 countries in the world that are not able to provide citizens with vital care due to a grave lack of health care providers (Semiali, 2012). The region of Morocco where this project will be delivered has one of the lowest doctor-patient ratios in the country. Furthermore, there are currently no programs in the country that train occupational therapy practitioners (Semiali, 2012). Clinics that employ educated healthcare professionals are scattered across the country and usually located only in big cities, leaving rural families struggling to find services due to a lack of adequate transportation (Silberberg & Katabira, 2006).

Another barrier to therapy is the shortage of non-language based resources. More specifically, those directly related to the occupational therapy scope of practice are not readily available to therapists as tools to educate their clients (Gadon, Balch, & Jacobs, 2007). As a result of limited resources, therapists who work at Center Asays in Morocco do not have an updated, non-verbal aid in therapy. Therapists and healthcare professionals who work in Morocco often come from other countries and do not speak the same language as the clients that they serve (Ruth Boswell, personal communication, April 11, 2014). As a consequence, this creates language barriers, which have been found to be associated with unsatisfactory care, lower quality health education, and less practitioner/client engagement (Ngo-Metzger, Phillips, & Greenfield, 2007). As the official languages are Arabic, Tamazight, French, and Spanish, with many variations depending on region, the need is eminent for a non-language based universal tool that will benefit both therapist and client (Morocco, 2014). Difficulty overcoming the language barrier in a clinical setting can also negatively impact the standard of care that clients feel they are receiving (Ku & Jewers, 2013). Therefore, creating a visual resource kit for therapists to use with clients could improve the provider-patient relationship, build trust, and raise the satisfaction level of clients when verbal communication is a barrier to quality care.

**Center Asays**

Center Asays is a therapy clinic located in Inezgane, Morocco that focuses on improving the lives of children with CP by providing speech and physical therapies. Occupational therapy (OT) was offered at one time, however there is no occupational therapist on staff at this time. Currently, the center employs seven Moroccan therapists, two South American therapists, and three North American therapists. Boswell reports that clinic staff struggle to effectively communicate important therapeutic strategies. She has also observed caregivers using self-damaging body mechanics when caring for their children (Ruth Boswell, personal communication, April 11, 2014). Boswell, along with other staff members at Center Asays, expressed the need for a non-language based resource to support caregivers of children with CP who come to the clinic.

Center Asays is the only center that provides in-depth assessment and therapy within a five-hour driving distance. Center Asays places a heavy emphasis on active range of motion (Center Asays & Ruth Boswell, personal communication, April 11, 2014). Some families travel at length to receive services from Center Asays, usually taking the bus or a taxi for transportation while nearby families walk. Rarely do families own a vehicle for private transport. Most of the families live in small villages and about one-fourth come from a bigger city. Most commonly, a mother or grandmother will bring children to the clinic. Mothers are typically the primary caregivers of children (Hasnain, Shaikh, & Shanawani, 2011). The most common spoken languages among clients are Moroccan Arabic and Tashlheit, a Southern Berber language. French is the second official language and spoken by some mothers with higher education (Ruth Boswell, personal communication, April 11, 2014).

Center Asays serves children with CP aged 6 months to twelve years and “exists to improve the lives of children with cerebral palsy... and give hope to families through therapy, education, encouragement, kindness, and love (Center Asays).” Spastic quadriplegia is the most common diagnosis, followed by diplegia and hemiplegia (Ruth Boswell, personal communication, April 11, 2014).

However, there are some strategies that may help alleviate the previously mentioned barriers to receiving quality therapy services. Providing patients with a non-verbal visual guide improves adherence to home care plans (Kessels, 2003). Furthermore, research has shown that video aids can positively impact the amount of information retained by a client after a therapy visit (Kessels, 2003). Several studies have also explored collaborative goal-setting, parent education, and family-centered care as avenues to reduce family stress and increase communication and understanding of the child's disability and therapy intervention plan (Novak, 2011; Maggs et. al, 2011; Piggot, Hocking, & Paterson, 2003, Chiarello et. Al, 2010). The guidance provided through a therapist-parent partnership can increase parental feelings of self-efficacy concerning their parenting skills and give them reassurance that they are doing things correctly (Novak, 2011). This positive feedback may increase parental compliance in the home environment when practicing skills learned in the clinic.

Successful home program implementation provides parents with support, encouragement, motivation, guidance, generalizable activities, and role clarification (Novak, 2011). By making the therapy a part of daily activities and routines, the families and the children retain valuable skills without feeling overworked (Novak, 2011). In addition, the distribution of written instructions is a supportive and motivating factor for parents (Novak, 2011). This project used nonverbal diagrams on paper handouts to facilitate transfer of skills learned in the clinic to everyday life.

### **Purpose statement**

The purpose of this project was to develop a non-verbal DVD and manual for the healthcare staff at Center Asays in Morocco to use as a tool to educate caregivers of children with CP on safe handling techniques and proper body mechanics during feeding and range of motion exercises. Caregivers will then be able to incorporate proper body mechanics into these activities, which will support child occupational participation and enable caregivers to safely maintain their roles long-term.

### **Procedure**

We began working on this project process by reviewing available literature on CP (specifically in pediatrics), language barriers in health care, cultural competence, Islam's view on disability, culture in Morocco, and caregiver injury due to poor body positioning. We also conducted a needs assessment with professionals who understand how language barriers can negatively affect healthcare, and gained insight from them on successful strategies and techniques they have used. Among our sources was an occupational therapist who volunteers at a clinic for children with CP in Mexico, and a Spanish-English healthcare interpreter in Portland. Boswell provided additional information to help us better assess the specific needs of our population. We also met in person with Ruth and her husband (who also works at the clinic), in August 2014. Other human resources included an occupational therapist, Said Nafia (OTR/L), who is from Morocco. We have exchanged several emails and met on Skype with Said to discuss cultural considerations and brainstorm ideas for the project.

Our group met twice a week for five weeks in April and May 2014 with Kirsten Wilbur, OTR/L, and Lucretia Berg, OTR/L, to discuss more in-depth considerations, including the influence of culture on our project and more detailed information on CP and proper positioning. In September of 2014, we researched the costs of the project and finalized our group budget. During December, 2014 and January 2015, we worked in collaboration with Wilbur, Berg, and the addition of Julie Anderson, OTR/L, to develop a detailed script for filming caregiver positioning during ADLs for a child with CP. This script was developed in consideration of home environments and access to equipment in Morocco. Our group secured a family for filming in January 2015 and completed filming in March. The video portion of the project was filmed on the University of Puget Sound campus in the pediatric clinic, with the environment created to be as realistic as possible to increase caregiver reliability to each scenario. The ADL of sleeping was filmed in the family's home in order to provide a more realistic setting for this section. Berg demonstrated safe, efficient caregiver positioning to support an 8 year-old boy with athetoid CP. A child with spastic quadriplegia was not able to be located to serve as a video model. The video was then

reviewed and edited using iMovie software. The manual handouts display the drawn images presented in the video and are available as supplemental take-home information.

Students of OT are well suited within academia to develop a non-verbal therapeutic product. OT focuses heavily on developing skilled activity analysis, interpersonal skills, writing skills, and cultural competency. More specifically, our team brings valuable skills, experiences, and interests that have benefited this project. Christina Reyer has valuable educational experience and earned an undergraduate degree in Sociology from the University of Portland. Included in her experience was a one-year study abroad program focused on art, German, history, and culture in Salzburg, Austria. Heidi Vladyka graduated from University of Washington and received a degree in Global Studies with a focus on cultural competency. Both team members have volunteered at least 100 hours working with children who have CP and have learned how it affects motor function, posture, and functional activities. These volunteer experiences include a constraint-induced movement therapy camp, a pediatric clinic in Mexico, as well as a hippotherapy program. Furthermore, both team members have lived abroad and understand the frustrations of accessing and receiving healthcare when language is a barrier. These experiences have contributed to each team member's ability to view culture with a broad perspective; which helped support cultural awareness and considerations for the project that might be otherwise overlooked.

In addition to extensive academic courses in OT and cultural competence, project members have personal skills that have benefited this project. Christina and Heidi both have valuable photography experience. This proved useful during the filming and photography phase of this project. Heidi is an achieved mixed media artist who has received local and regional awards for artistic renderings. She has also photographed for a globally distributed travel magazine and worked on many successful design and marketing teams. The two project members combined generated a powerful team to create and implement a product that is culturally competent and artistically aesthetic that will make a difference in the lives of the families in Morocco.

### **Final Project**

The final project created by two student groups for the Policy, Advocacy and Leadership course, is a non-verbal-based resource kit effective for caregiver training and provides educational tools for healthcare providers and their clients for Center Asays. Two products are found in the resource kit: a manual and a DVD. The manual is intended for the healthcare staff at the center, and contains seven non-verbal, picture-based sections. The sections cover body mechanics of caregiver as well as handling and positioning techniques of the child during ADL. The content of these sections includes feeding, range of motion (ROM), grooming, dressing, sleeping, and the carrying of children with CP. This paper pertains to the sections addressing caregiver and child body mechanics during feeding and ROM.

All information in the manual is non-verbal drawings demonstrating how to safely perform caregiving duties. A large “X” placed across the picture indicates the positions, movements, and behaviors that are discouraged. The handouts can be photocopied as needed so that the healthcare staff has an ample supply to distribute to parents or caregivers based on the child’s individual needs. The handouts are available to take home to serve as a reminder or motivator to continue healthy activities outside of therapy hours in the clinic.

The DVD portion of the resource kit includes the same intervention strategies presented in the manual and may be shown in sequence or accessed as individual chapters with a remote control. Each section has a demonstration of the proper way in which to perform each ADLs/IADLs while working with a child who has CP. Caregivers will have the opportunity to view the video in the waiting room and learn valuable strategies while their child attends the therapy session.

Center Asays in Morocco will benefit greatly from having a product that will allow them to provide parents and caregivers with non-verbal instruction of care for children with CP. In the absence of an occupational therapist on staff, this product will educate the healthcare team on how to improve occupation-based functional outcomes, safety, and meaningful child participation. Furthermore, this product will provide supplemental materials for take-home education to help retain valuable information

learned during therapy sessions. Caregivers may feel more satisfaction with the healthcare received due to decreased communication barriers. Healthcare staff will be better equipped to overcome the language barrier.

### **Project Goals & Objectives**

Goal 1: After receiving handouts and viewing DVD, caregivers of children with CP are equipped with a tool to use as a home reference to develop and enforce safe body mechanic skills in order to reduce injuries.

Objective 1: After receiving handouts and viewing DVD, caregivers are able to identify an alternative body position for child feeding, diapering or ROM exercises.

Objective 2: After receiving handouts and viewing DVD, caregivers are able to identify two general proper body mechanic techniques to the healthcare staff.

Objective 3: The healthcare staff will play the video at least one time per week as needed for a caregiver who is working positioning on feeding, diapering, or ROM with a child who has CP.

Goal 2: The resource kit will help improve the healthcare staff-caregiver relationship by decreasing language barriers and improving non-verbal communication.

Objective 1: After receiving the resource kit, healthcare staff has the materials to distribute two of the non-language based handouts as needed to clients when a language barrier is present.

Objective 2: By electronically completing a post-kit implementation survey interpreted by Ruth Boswell that includes a Likert scale, healthcare staff have reported increased satisfaction with the services they are able to provide.

### **Outcome of Project**

A short pilot was sent to Boswell containing a finished section of the DVD and accompanying handouts. A survey was sent shortly after the pilot that was based off of project goals and objectives. Although survey specific information was not returned, Boswell was pleased with the product and stated,

“As others have looked at this video clip and the hand outs, they are able to understand and show how to follow through with something like this at home.”

### **Implications for Occupational Therapy**

#### **Application of the Person-Environment-Occupation Model**

Within the scope of OT practice, the Person-Environment-Occupation Model (PEO) considers occupational performance to be determined by three distinct constructs, each of which contributes to a person’s ability to master an occupation (Brown, 2014). These constructs include the person, the environment (context), and occupation (task) (Brown, 2014). This model holds that people can best achieve success when they meet the challenges of their environment. Occupational performance is the most functional and provides a sense of mastery when both the environment and a person’s skills and abilities are able to match the demands of the desired occupation. The three components of this model are dynamic and each should be purposefully considered for each situation in order to facilitate occupational performance and find a successful match. Improvements in one area provide more opportunities for a positive occupational experience. This goodness of fit match is the most successful when the confluence of person, environment, and task factors support one another.

This project’s goal was to educate caregivers on ways to safely assist a child with CP with his or her ADL or IADL in order to maximize occupational performance for both the child and the caregiver in their natural environment. This was accomplished by efficiently combining compatible factors within the environment, person, and task. Cerebral palsy may disrupt client factors, many of which this resource kit will address through caregiver education that will support the child in pursuing meaningful engagement and help facilitate occupation. The PEO model also states that just as his or her environment influences a person, the person exerts influence on his or her own environment (Brown, 2014). The outcome, or occupational performance, is dependent on the balance between the person, environment, and occupation. This project targeted the environmental aspect of the equation, by educating those directly in it. The more

a child can be supported by his or her caregivers, the greater the chances are for mastery in desired occupations.

### **Application of the OTPF**

Children with CP and their families face challenges that can be greatly reduced with the assistance of OT. While some health clinics exist throughout Morocco, the threat of loss of function for this population is considerable because accessible information about CP and therapy clinics are scarce to non-existent (Ruth Boswell, personal communication, April 11, 2014). Additionally, there are no academic OT programs in Morocco and not enough occupational therapists in existing pediatric clinics (Said Nafia, personal communication, September 10, 2014).

The link to help the client participate in meaningful habits, routines, and roles in their own environment, is missing from this population (AOTA, 2014). Engaging in fundamental ADL such as feeding improves quality of clients' health (AOTA, 2014). Children with the spastic quadriplegia (tetraplegia) form of CP often present with bilateral upper and lower extremity impairment as well as intellectual disability, hypertonia, and decreased motor control, all of which can have a negative impact on ADLs (National Institute of Neurological Disorders and Stroke, 2013). Occupational therapists are skilled at analyzing and grading activities to meet the needs of the client and his or her body limitations and strengths (AOTA, 2014). This project effectively uses family education, positioning and home programs to increase successful participation and success in performance. While there is no occupational therapist on site at Center Asays, caregivers now have the opportunity to benefit from occupational therapy practice standards by viewing the waiting room DVD in conjunction with using structured handouts at home.

The intention of the resource kit was to provide a multidimensional tool that will visually educate caregivers on how to increase participation in daily occupations. Each portion of the kit highlights important motor, process, and social interaction skills required by caregivers to effectively support children with feeding and ROM. All components consider the context and environment of the clients in

Morocco (AOTA, 2014). This project will hopefully help families that live with a child with CP to maximize therapeutic benefits and prevent malfunction, deformity, as well as learned non-use of affected extremities.

### **Special circumstances and considerations of the project**

During the creation of this project, it was important to consider our target audience and continually ensure that it is culturally competent to the population it is serving. It was necessary to be mindful and focus on culturally relevant, nonverbal methods to communicate the educational information with which we want to provide the center. It was crucial to understand how language barriers may limit our presentation of information. Communication about the daily activities and caregiver-child relationships with Ruth Boswell was an integral part of producing a project that is applicable, helpful, and well-received at this specific center.

### **Limitations of the project**

Limitations of this project center largely on issues surrounding our understanding of the culture in Morocco, a lack of funding, and challenges related to finding a child with a presentation of CP similar to the majority of the children seen at Center Asays. These limitations are areas that may be more thoroughly considered and addressed if student work involves a similar project in the future.

Throughout the development of the project and background research, students were in frequent contact with Ruth Boswell, PT and Said Nafia, OTR/L, to gain a better understanding of daily life, culture, resources, availability of equipment, and practices for ADLs in Morocco. In addition, students gained knowledge regarding the most typical age ranges and presentations of CP seen at the clinic where our project would be implemented. Students saw pictures and videos of therapist-child and parent-child interactions and therefore develop a picture of how the ADLs focused on for this project are performed by our target population. While all of the information gained about the culture in Morocco greatly informed our project, it does not replace real-life experience of the culture and clinic for which our project has been created. Future projects may consider a personal visit to the clinic which would ideally include

discussions families receiving treatment in addition to feedback from therapists working at Center Asays. This would also provide the creators of the project with a better idea of equipment and resources available to families in Morocco that could be incorporated into the video.

A second barrier to the project was limited funding from the University of Puget Sound's University Enrichment Committee. This impacted the original plan for the project, as it required students to remove items from the budget that added to the intended final project. Items removed from the list included a hard copy of the manual for the therapists in Morocco as well as students taking on editing and drawing tasks originally intended to be outsourced to professionals. Significant efforts were made to gain permission to use images for the handouts from a resource (Bower, 2006) which students used to guide much of the project's child and caregiver positioning considerations. However, at the time of this report no permission to use these images has been obtained.

An additional limitation of this project included difficulty finding a child whose age, size, and presentation of CP closely resembled the majority of the children seen at Center Asays. The child shown in the videos has athetoid CP, whereas more children at Center Asays present with spastic quadriplegia. The model child's consistent upper body movements and fluctuating tone are presentations that are more challenging to demonstrate proper positioning with for this type of non-verbal video. Because more children at Center Asays have spastic quadriplegia than athetoid CP, it was important for us to focus on caregiver body mechanics and give multiple options for the child's positioning so the video is more generalizable to multiple types of CP. For similar projects in the future it may be beneficial to secure a child with a presentation more similar to the target population.

### **Recommendations for the project's future and sustainability**

This is the first resource of its type that Center Asays has received. Consequently, questions regarding application of the body mechanics and handling procedures shown may arise. We anticipate that the therapy staff at the center will be able to address these questions, therefore supporting understanding and acquisition of the strategies presented. Center therapists will be able to clarify any

misunderstandings that arise from the video or elaborate on principles using language and gestures. As families integrate these strategies into their daily routines they may also encounter opportunities to share the principles with other families who do not attend Center Asays. This suggests a promising future for the information in the DVD and manual handouts to be communicated and reach families outside of the direct influence of the center. This project further proves to be sustainable by using well researched and documented handling techniques for children with CP appropriated from *Finnie's handling the young child with cerebral palsy at home* (Bower, 2006).

The resource is easily replicated with the resources available at Center Asays. Staff have access to a television with a DVD player, a computer, a printer, and the internet. These technologies allow them to play the video for families in the future as often as needed, as well as print as many copies of the ADL handouts as necessary to send home with families. If something happens and the DVD or digital copy of the ADL handouts are damaged, the University of Puget Sound will also have copies of these resources that will act as back-up. Ruth Boswell is very invested in Center Asays and the clinic also receives financial support from the government, which bodes well for continued funding of the center.

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