

Experiences of Students, Teachers, and Physical Therapists From Blind People's Association in Ahmedabad, India: A Qualitative Study

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Background and Purpose. Students who are blind or visually impaired (BVI) have been trained as physical therapists (PTs) since the early 1900s in the United Kingdom, but there are no known institutions available for these individuals to pursue physical therapy in the United States (US). The purpose of this study was to explore the lived experiences of PTs and physical therapy students with BVI, and teachers with and without BVI at Blind People's Association (BPA) in Ahmedabad, Gujarat, India.

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The Institutional Review Board of Texas Woman's University (TWU) approved this study

The authors report no conflicts of interest.

Received November 13, 2015, and accepted October 14, 2016.

Method. The phenomenological qualitative research tradition and semistructured interviews were used to explore how physical therapy student, clinician, and teacher experiences at BPA affected the outlook on personal, professional, and community lives. Using inductive analysis, each interview was coded, and then similar comments were grouped based on like tendencies, with common themes emerging from this data.

Results. The overarching theme that emerged in the qualitative analysis was acceptance, and the 3 themes of acceptance were (1) elements of teaching and learning, (2) impact of blindness, and (3) helping others and self.

Discussion. The PT students with BVI at BPA are similar to students studying physical therapy in the US in that they want to build upon their personal attributes, such as confidence and independence. They want to be financially stable, and they implement many of the same study strategies, such as visualization, audio recording lectures, and study groups. Accommodations that BPA has provided have minimized the impact of BVI for these students.

Conclusion. This study will give students, clinicians, and faculty a better understanding of how they can accept and accommodate PT and physical therapist assistant (PTA) students with BVI in the classroom and clinic.

Key Words: Physical therapy education, Physical therapist assistant education, Blindness, Visual impairment, Qualitative research, Phenomenological research tradition.

INTRODUCTION

Legal blindness is a level of vision loss that has been defined by United States (US) law as "a central visual acuity of 20/200 or less in the better eye with the best possible correction, or a visual field of 20 degrees or less"; the other eye would have equivalent or worse vision.¹ Worldwide, there are 285 million people who have blindness or visual impairment (BVI), with the World Health Organization recognizing levels of BVI according to the International Classification of Diseases (ICD).² BVI causes a significant disability for some, including limiting the ability to work.^{3,4} Little published evidence exists about the quality of life for people with BVI and their ability to study, teach, or gainfully work in a health care profession.⁵ The first purpose of this study was to explore the lived experiences of physical therapist (PT) students, faculty, and clinicians with BVI at a PT education program at the Blind People's Association (BPA) in Ahmedabad, Gujarat, India. This program provides education at the baccalaureate level. The second purpose was to learn how the experiences at BPA affected the outlook of these PTs and PT students on their personal, professional, and community lives. The research questions posed by the study were: "What were the lived experiences of students with BVI prior to and during their study at BPA?"; and "How did their experiences at BPA affect their outlook on their personal, professional, and community lives?"

This study hopes to inform PT and physical therapist assistant (PTA) educators and clinicians about the provisions that students with BVI require or may benefit from to facilitate acquisition of the material taught in professional (entry-level) PT and PTA programs. It also will address accommodations needed for the clinical practice of physical therapy when PTs or PTAs have BVI. Course material is often visual in nature, and gaining insights from students and instructors who have adapted to less conventional methods

of teaching in order to better serve these students will be important. We hope to illustrate how people with BVI can attain a career in physical therapy that can be feasible as well as fulfilling.

REVIEW OF LITERATURE

In the United Kingdom (UK), physical therapy has been known as a career that is suitable for individuals who have BVI.^{6,7} In 1913, Percy Way became the first person with complete blindness to practice physical therapy after graduating from the School for the Blind in London.⁸ In 1915, the National Institution of Massage by the Blind became part of the Royal National Institute of the Blind (RNIB), and was later known as the School of Physiotherapy in the RNIB, training physiotherapists with BVI until 1995. It was started as a massage school to exclusively train and rehabilitate blind ex-military service personnel from World War I.⁸ Currently, RNIB's Physiotherapy Support Service facilitates the mainstream physiotherapy undergraduate education of people with BVI and helps them find competitive employment.^{8,9}

In India, BPA was founded by Jagdish Patel in the 1950s, and it has trained students with BVI to become PTs since the 1980s.¹⁰ Currently, BPA provides scholarships for students with BVI to study physical therapy, has faculty with BVI, and employs clinicians with BVI at the center's clinic.

Despite this longstanding tradition of providing these educational and life experiences for people with BVI, formal investigations about the lived experiences of those involved with this level and type of education and work are limited. One study in the UK explored the lived experiences of students with BVI in a mainstream physiotherapy school through semistructured interviews (length of time of interviews was not described).⁵ Their findings suggested 4 main themes which they identified as both barriers and enablers to their learning experiences: staff

behaviors, resources, time and effort, and fear of disclosure. In addition to the themes, the study concluded that in order to gain an understanding of the lived experiences of this unique population, educators need "to seek out, listen to, and act upon the voices of disabled students."⁵ However, there appears to be a lack of similar studies in the US, which is unfortunate because according to the American Printing House for the Blind 2016 Annual Report, there are potentially more than 62,528 registered students of all ages who are legally blind in the US.¹² Research is lacking in this area as individuals with BVI typically do not attend postsecondary institutions due to numerous personal and environmental factors.¹¹ Information regarding students with disability, including but not limited to BVI, in PT programs in the US is not currently systematically tracked. Such data and research would reveal how individuals with BVI perceive their ability to acquire skills related to employment in a health profession such as physical therapy. Our study aims to expand upon the work by Frank et al⁵ by not only interviewing PT students, but also physical therapy instructors and practicing clinicians.

PARTICIPANTS

The purposive sample of 15 people with BVI (10 students, 3 teachers, 2 clinicians) and 5 sighted teachers were nominated by the director of the physical therapy department at BPA. Each person volunteered to participate when asked by AB (coprincipal investigator and coauthor). All of the students and practicing PTs had BVI. The teachers had BVI or were sighted. The students had no other type of disability. Table 1 summarizes the demographics of the 20 participants.

METHODS

Procedures

The phenomenological qualitative research tradition with semistructured interviews was

used to explore the lived experiences of physical therapy students, clinicians, and teachers with BVI, as well as teachers without BVI, who instruct at BPA. This research tradition was used due to the focus on the lived experiences of the participants and their interpretation and perceptions of the world around them.¹³

Prior to the development of the study's interview guide, staff members with BVI were interviewed at The Lighthouse of Houston, Houston, Texas, and at the Texas School for the Blind and Visually Impaired in Austin, Texas, to enhance researcher understanding of the challenges faced by people with BVI.^{1,14} Additionally, during interview development, 2 occupational therapists (OTs) with disabilities (paraplegia) employed at a rehabilitation hospital in Houston, Texas, were interviewed to learn how their physical disability affected their educational experiences, ability to secure employment, current work environments, and the accommodations that were provided to them during their professional education and careers. Their insights as health care professionals with a disability were valuable in helping to develop the semistructured interview guide with open-ended questions. They shared that their experiences of being a student with a disability, and learning the psychomotor skills and didactic knowledge needed for their professional practice of occupational therapy, strongly influenced their approaches toward job searches and asking for accommodations to fulfill essential job functions. The OTs reported that being a student with a disability was easy as compared to seeking and obtaining employment as a health care professional with a disability. We anticipated similar issues for the students at BPA as far as BPA's willingness and ability to make accommodations for their students' BVI and to provide a supportive environment for their education. We felt seeking and obtaining employment with accommodations for their BVI in the community would likely

Table 1. Demographic Information of BPA Participants

Demographics		Students	Teachers	Clinicians
Gender: M/F		8/2	6/2	3/0
Vision Status		Blind/Partial Blindness: 8/2	Blind/Sighted: 3/5	Blind/Partial Blindness: 2/1
Age	18-20	4		
	21-24	4		
	28-29	2		
Years of Study	1	3		
	2	5		
	3	2		

be more challenging.

Interview questions were written in English and translated by AB into Gujarati, the native language for participants at BPA, so that natural responses in each person's preferred language could be elicited during the interview. See the Appendix for the interview questions in English. To ensure consistency and accuracy, all recruitment and consent documents in Gujarati were back-translated into English by another person who was fluent in English and Gujarati. AB back-translated all interviews into English, with 2 others verifying the accuracy of the translations.

All 20 students, teachers, and clinicians suggested by the director consented to participate in the study. The informed consent form was provided in large font format in Gujarati or English. If they were unable to read the form, then it was read and explained by AB or by a person trusted by the participant in Gujarati, English, or Hindi, based upon each participant's preference. All interviews were audiotape recorded. All interviews were conducted by AB in Ahmedabad, Gujarat, India, at the BPA campus, or at the clinicians' work place in a private space. Each interview was first recorded onto a tape recorder then saved into digital format on the GarageBand program to protect the data from loss. Each interview was assigned an alphabet letter to protect confidentiality.

Member checks were conducted by returning the transcriptions to the participants to confirm that the transcribed interviews were accurate.¹³ Participants were instructed to return any revisions by electronic mail. Once transcription was verified, the interviews were translated individually into English for data analysis by AB and SE. AB and SE cross-referenced translations, and RP reviewed 3 interviews to ensure consistency and accuracy of translation.

Data Analysis

After the interviews were transcribed and translated, researchers independently open-coded each interview using track changes. Individually, AB, SE, and CDS open-coded the transcripts of all the students. AB, SE, CDS, and RP individually open-coded the transcripts of all the clinicians and teachers. Triangulation of the coding was completed for 3 student transcripts by AB, SE, and CDS to ensure trustworthiness and accuracy. Triangulation of the coding for 1 teacher and 1 clinician transcript was performed by AB, SE, CDS, and RP. The investigators collaborated in extracting meaningful comments from all transcripts which were then written down onto Post-itsTM. The Post-itsTM were arranged and rearranged according to like tendencies.

First, the students' interviews were analyzed and discussed as a group. Secondly, the teacher and clinician interviews were analyzed and discussed as groups. Through this process of inductive analysis by extensive discussions among the research team, information from the Post-its was arranged on a whiteboard on the wall according to common patterns and categories until themes emerged from the data.^{13,15}

RESULTS

A total of 20 interviews were conducted at BPA in Gujarati, Hindi, or English by AB, who is fluent in all 3 languages. The participants were quick to answer questions and were concise in their answers, even when probing follow-up responses were used (ie, "Can you explain more about this?"). Interviews lasted 14 minutes on average, with the longest one requiring 20 minutes. See Figure 1 for results from the qualitative analysis.

The 3 subgroups of participants (students, teachers, clinicians) have significant roles within BPA, interacting with one another within each person's subgroup, as well as the other 2 subgroups. Additionally, they also have experiences that are separate and independent from BPA within the community. For example, students and teachers most notably interact within the classroom setting, clinicians interact with students by mentoring within a free clinic to practice clinical skills, and teachers and clinicians work together at BPA to enhance personal and professional growth of the students.

Students, teachers, and clinicians all interact as they perform their roles in the BPA community. The overarching theme that connects these 3 groups is "acceptance." Acceptance is a broad concept, and in this context, it centers on the desire to be seen as equal to sighted counterparts. More specifically, acceptance in this case can be broken down into 3 themes: "elements of teaching and learning," "impact of blindness," and finally, "helping others and self." When each theme was further explored, subthemes and categories emerged that added greater dimensionality to experiences of the BPA community.

Elements of Teaching and Learning

Four subthemes defined this theme through the data analysis of the interviews that were conducted with the teachers, students, and clinicians at BPA.

All Needs Taken Care of. All of the students had free room and board, free tuition, and low worries about their education, experiences, and learning strategies in order to be successful in the program, as noted in the following statements:

I have received everything I had imagined and needed at this school, and I'm really happy because of that... I completed my first through tenth there, then I finished eleventh, twelfth, and physiotherapy here at BPA, in which everything was available regarding technology and everything, so I didn't have to ask them about anything. They have provided a CD player, tape recorder, Braille book, all of these and whatever was needed was available (Student E).

In BPA, I don't have to spend any money, so there is no tension. And if you have tension, it interferes with your studies. If your financial worries are lessened, then you can study comfortably. So that the advantage is that you get everything here; the best education and knowledge you can get. You can learn without any tension and make good progress in life (Student A).

Financial and Managerial Barriers. Conditions that participants identified as barriers included the expense and lack of access to Braille textbooks, class and clinic schedules, facility uncleanliness, and insufficient clinical technology. Although Braille books were mentioned above as items that were provided, some concern was also expressed that not all of the textbooks were available in Braille due to expense or lack of translation into Braille formatting.

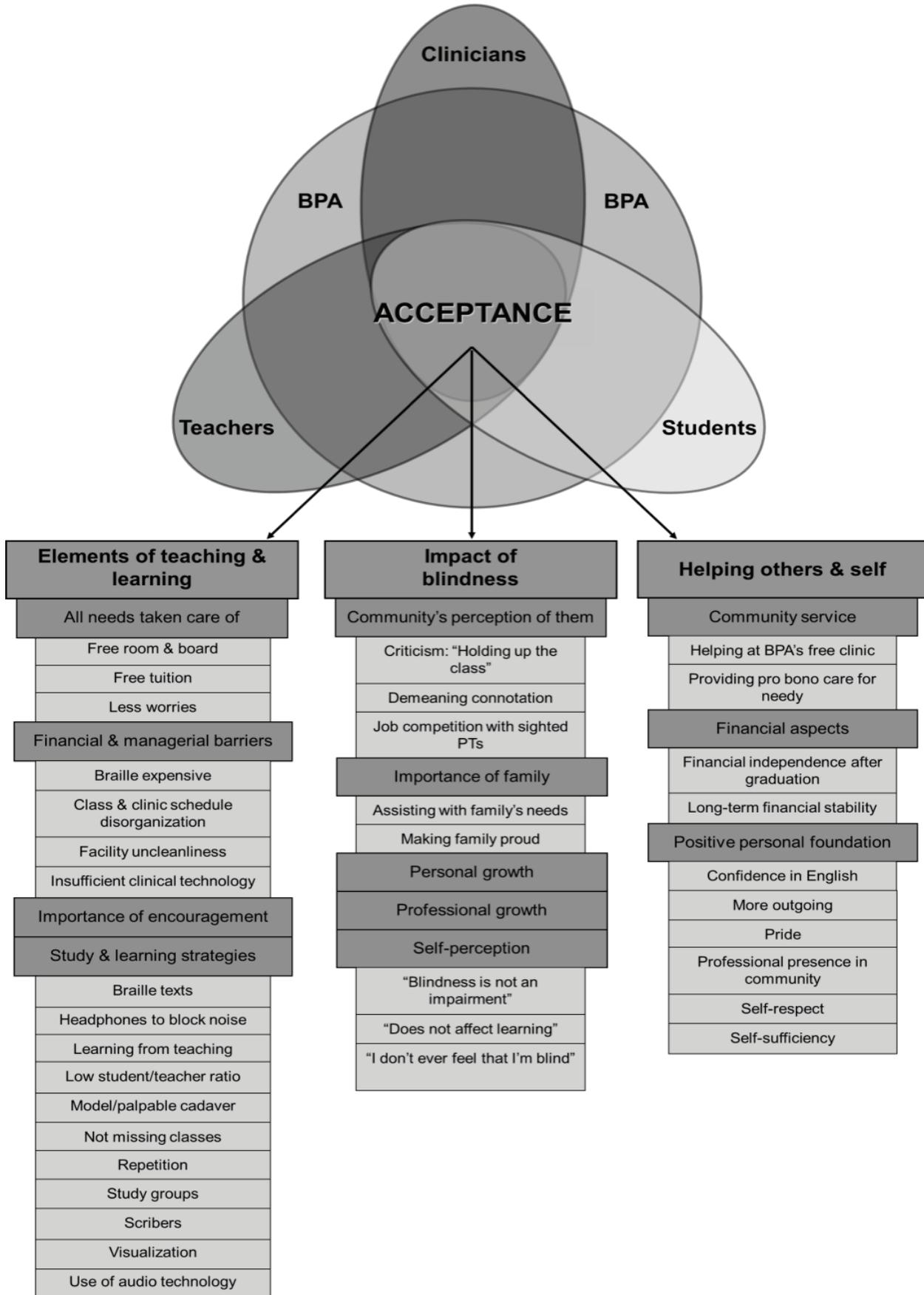
In the BPA program, the class timetable (schedule) is not very well organized; this should be organized, so that students know how to study and how much to study, and if possible BPA should provide enough Braille material. And third thing is, they should teach using a computer because it is a modern time, so if the subjects are tied in with using the computer then our learning would improve even more (Student I).

Importance of Encouragement

Several students reported feeling emotionally supported and encouraged by the teachers at BPA.

For example, a cell, a sighted person can see the cell in the laboratory and know what it looks like. For us it may take close to a month because it is hard to understand it. So this is the difference, but otherwise a blind person can do everything that a sighted person is able to do. The important thing is to have people who are there to encourage the blind person (Student I).

Figure 1. Results of Qualitative Analysis



Study and Learning Strategies. The students were given various tools and engaged in strategies to augment their learning experiences in order to be successful in this program, such as Braille texts, headphones to block noise, learning from teaching other students, low student-teacher ratio, model/palpable cadavers, regular class attendance, repetition, study groups, scribes, visualizations, and the use of audio technology through cassette tapes or compact discs.

It [blindness] usually does not affect my learning. Usually when we study, we are able to concentrate more thoroughly because a person with vision gets distracted when they see someone, so it is easier for us to concentrate on studying... During studying, many times we use headphones, so even though our hearing is very sensitive we are able to block outside conversations and focus on the audio lectures (Student C).

Teachers were able to modify their teaching methods and styles in order to accommodate the learning strategies for the students.

If a person can see, then we can give them a model to look at, correct? But those who cannot see, and you want to show the model by touch. You have to explain by touch, how to make joints, which bones make up the joint... So my advice is, even though you cannot see with your eyes, you still have your feeling of touch and visualization (Teacher D).

Whenever the lectures are going on, we allow them to record the live lectures. For that purpose, we provide them blank cassettes, tape recorders, and that kind of environment. That is number 1. Second, we provide them readers who can read for them, and readers will try to solve their individual problems also. Third, at frequent intervals, we repeat the syllabus, in theory and practicals (Teacher N).

Impact of Blindness

The theme of “impact of blindness” included the following subthemes:

Community’s Perception of Them. The students expressed their perception on how the community views their BVI. Some of their main concerns included interpersonal barriers such as criticism of holding up the rest of the class and demeaning connotations prior to coming to BPA. Another commonly reported concern was job competition with sighted PTs upon graduation. Clinicians expressed that they were faced with doubts

from other members of the health care community about their abilities to practice physical therapy. They also reported that patients seemed reticent to trust them as skilled PTs until they got to know them. Students and clinicians also reported requiring the accommodation of a helper to act as a reader (to read medical records, written prescriptions, reading assignments) and scribe (for clinical documentation, written assignments, and examinations). Having the extra person to act as their “eyes” could introduce some awkwardness in patient interactions and could be a financial burden on the clinic or facility who hires them.

Starting eighth grade when I would go up to the board, I would disturb the other classmates and the class, so the teacher talked to my parents and suggested putting me into a blind school because they do all their lectures orally and it is easier (Student M).

In reality it doesn’t make much difference, but in some cases where you have to physically check or touch the patient to feel the pain or area of inflammation, there are some problems; if you have to stand and see and are not able to actually touch the patient, that is the difficulty I face; but then I ask more oral questions... Frustration arises when they look at my condition as being blind and they don’t want to get treatment from me (Clinician Q).

Importance of Family. Among the things that were important to this group of students and clinicians was their families. Students wanted to be able to assist their families’ health and financial needs and to make their families proud of their accomplishments in this program and future endeavors. How they appeared to not only their family, but also their community (as reported above), was important to them. Student F noted, “Also when you are out and about, people firmly say that you are a doctor. Because of this, family members also feel self-respected. These are the reasons why I chose to do physiotherapy.”

Personal Growth. The next student provides an example of how he had high professional and enriching personal aspirations. One might infer that his blindness was not “slowing him down” or limiting his ability to reach for his goals. Student G commented, “After getting a degree in physiotherapy and computers, I want to become the best physiotherapist, and I want to open my private clinic. Along with this, I want to take a course in music so that sometime in my life I can fulfill my desire of becoming a great singer.”

Professional Growth. Several students and a clinician discussed goals of opening their own clinics in the future. However, the following student seemed to have truly thought about this idea and had a plan. His plan seems quite similar to PT students with and without BVI, and again, his BVI does not seem to be hindering him. Student M said, “I have decided that I will open my own clinic after I have finished this physiotherapy course. But initially I will work at a private clinic because you can’t open a clinic straight since you need a lot of experience. And you need networking, so in the beginning I think I will take a job then I’ll open up my clinic.”

Self-perception. From activities of studying to community mobility, these students did not perceive themselves to be limited by their blindness. Student F, for example, said, “I feel blindness does not hinder my studying.” Student B noted, “There is no effect on my learning due to my visual impairment, because I’ve been blind since birth, so I don’t have any pain/regret that I’m blind. Because I’m able to do my own work, come and go from and to Maharashtra, and I’m able to travel around the city, I can go anywhere without anybody’s help, so I don’t ever feel that I’m blind.”

Helping Others and Self

The theme of helping others and self included the following subthemes:

Community Service. With respect to helping out the community, the students discussed helping out at the BPA’s free clinic and providing care for the needy. The sense of altruism extends in their plans beyond graduation and providing care outside the BPA free clinic. As Student I noted, “After becoming a physiotherapist, for the first 1 or 2 years I want to work for a private or government hospital. Then I will open my own clinic. I want to work in this field, and by keeping my work in mind, I will take money only after keeping the poor patient’s condition in mind... I want to do ... community service and work at the same time and I want to become an excellent physiotherapist.”

Financial Aspects. In regards to their financial aspects, the students reported independence after graduation and long-term financial stability were important to them. They discussed not only their ability to become self-sufficient, but also their willingness to contribute to their families’ incomes. Additionally, the clinicians expressed pride in being financially self-sufficient after working for only a few short years after graduation. Student A said, “Financially I can be stable in life and I don’t have to depend on others. In this we can get employment. That is the reason I decided to do this course.”

Positive Personal Foundation. Collectively, the positive personal foundations that the students and clinicians had due to their enriched experiences at BPA was their confidence in the English language, being more outgoing, having pride and self-respect, having a professional presence in the community, and being self-sufficient. From the comments, the students and clinician below show self-confidence and respect in general and their professional lives, with a commitment to help others to the best of their ability, locally and globally.

The blind students are able to provide patients with physiotherapy in the same manner as sighted/normal students (Student O).

BPA has empowered visually impaired people with the tools/art to live their lives, field of action (voice), and reputation/stability in the community (Student P).

First thing I will do after physiotherapy is I will find a job, and by working in a job I want to see my family happy, and will progress in my family life. If possible, I will also provide service to the community/world (Student K).

You not only gain financial stability, but also gain status. In addition, having no sight, people still see you as a doctor, and think that even though he is blind he is a doctor. So people start to trust you more (Student F).

After doing this I had enough self-confidence to think, if I use the same energy and knowledge that I use at the doctor's clinic and at the hospital towards my own practice/clinic, then I will make great progress. I immediately implemented the idea of opening my own clinic, and thereafter started my own clinic, and received much success through it (Clinician P).

DISCUSSION AND CONCLUSION

Prior to studying at BPA, the students reported that they felt as though they were an apparent inconvenience to their peers, teachers, and families. Also, the students were not provided with ample accommodations in their traditional classroom settings, which limited their options in secondary education. Conversely, at BPA, they were given a learning experience that allowed them to feel and be more successful with their education. After having the experience at BPA, the students

felt more accepted by their larger community and became more confident and inspired to pursue goals in their personal and professional lives, and felt an increased desire to impact their communities with the training they received. These themes of personal and professional growth and desire to impact others are similar to themes emerging from the qualitative studies by Furze et al¹⁶ and Stickler et al¹⁷ of perceptions of American PT students after community engagement or pro bono clinic participation, respectively. Themes that emerged relevant to this discussion include “self-awareness of service capacity,” “professional transformation,” “sense of community impact,” and “increased awareness of impact on others” from the study by Furze et al,¹⁶ and “core values,” “clinical physical therapy skills,” “professional growth,” and “community and professional connections” from the study by Stickler et al.¹⁷

Our study's overarching theme of acceptance, however, differs significantly from the study by Frank et al⁵ in which the fear of disclosure of their BVI or instructors “singling them out” in front of classmates were reported barriers to student learning. Since there are no PT education programs in the US that train only students with BVI, these students would be mainstreamed into existing programs with related disability support services similar to the students in Great Britain.⁵

Our results displayed the students identified overarching themes of acceptance of their BVI, roles within their families, a desire to be accepted by the community, and a hope to positively impact others. The majority of the student participants in this study were not primarily concerned with their visual acuity, but rather with their peers valuing their worth and competence as PTs. This finding indicates BPA has provided a supportive learning environment in which appropriate accommodations were made for their students to be successful in the program and in life.

The student participants in this study are similar to PT students in the US in that they want to build upon their personal attributes such as confidence and independence.¹⁶ Moreover, they appeared to utilize similar study strategies such as visualization and forming study groups. Instructors and students utilized available technology, such as audio recordings and palpable models, to enhance teaching and learning.

The BPA students expressed appreciation for some of their equipment and technology that facilitated their learning of the material, but they also reported some concerns about certain items not being up-to-date, insufficient Braille textbooks, computers, or lab equipment, largely due to costs. In US uni-

versities, there are now departments devoted to providing support services for people with disabilities. As technology advances, more options are available for people with disabilities, and some items become more affordable, and therefore, more accessible to individuals, institutions, and facilities. With budgetary constraints, accommodations that cost money may be shared between the support services departments and the academic programs.

At the time of this study and manuscript preparation, our School of Physical Therapy at Texas Woman's University (TWU) had 2 PT students with significant visual impairments. Strategies they have used and accommodations they have been granted at our University include: sitting in the front row, written examination fonts enlarged, additional time for written examinations, use of strong magnifiers (especially in anatomy cadaver lab), electronic versions of all handouts that can be enlarged on a computer screen, ordering electronic versions of textbooks (and enlarging the font), having a driving buddy in the class that can help with transportation issues, and working with a hospital system for modifications to the electronic medical record documentation system. Most of the strategies and accommodations listed above cost no money to our University. Lengthier written examinations, enlarged font sizes, and scheduling a student to be in the same sections as a driving buddy require minimal extra faculty or staff time. Other more expensive and higher technology options are available, including a closed-circuit television with a large monitor to magnify study materials, and ways to customize the settings for the student's unique vision issues. One may be needed for home use, university use, or both to enhance study experiences.

Although technology has helped students with BVI in the ways discussed above, the students from the study by Frank et al⁵ remind us that instructors must be cognizant to be very descriptive with words rather than pointing to “this” or “that” on slides, while also providing “hands on” demonstrations rather than just providing images on a screen. The students from this study also discussed the difficulties in reading items with fixed formatting, such as portable document format (pdf) versions, and accessing electronic textbooks or other resources.⁵

The accessibility of technology that we may take for granted in the US appears to be a luxury in an environment such as BPA. As students, teachers, and clinicians of BPA have told us, the impairment of BVI is a challenge to the students learning the science and art of physical therapy; however, this challenge is one that the students have overcome through

hard work in combination with the University's accommodations and support. This challenge is also surmountable to students with BVI who wish to become PTs in the US, especially with the resources and infrastructure made available due to the Americans with Disability Act (ADA).¹⁸ A likely area of difference between students with disabilities, including but not limited to BVI, in the US and India is that the rights of US students with disabilities have been protected by the ADA. Since its enactment in 1990, schools and universities have worked to comply with the law to reduce barriers and enhance learning for students. As an example, our website states, "DSS (Disability Support Services) determines appropriate accommodations for students in the classroom and in the use of University facilities in order to provide equal access to educational opportunities at TWU."¹⁹ Additionally, when students prepare to graduate and take the licensure exam in the US, they can apply for the same testing accommodations as those provided by their university (ie, larger font, extra time for those with BVI).²⁰

Another difference is the level of training for entry-level practice between India and the US. In the US, all PT programs are offering the doctor of physical therapy degree exclusively, with the current exception of the University of Puerto Rico. The US also has the associate degree in PTA as an entry point into the PT profession. In India, PT education continues to be primarily at the bachelor level, although master of physical therapy programs are starting. At times, Indian bachelor degrees are not equivalent to a US bachelor of science or bachelor of art degree.²¹⁻²⁴ One can see in Table 1 that some of the student participants were quite young (18 to 20 years old), and the average age of PT student applicants in the US who were accepted through the centralized application system for the classes entering in 2015 was 23 years.²⁵ Another difference is that 80% of the BPA students were male, while 38% of accepted PT students in the US were male.²⁵

Culture and life experiences will be different as the students begin physical therapy education. However, all students, regardless of their backgrounds, entering the physical therapy profession need to learn a certain amount of didactic information through lectures, readings, discussions, etc. They also need to learn psychomotor, interviewing, and other skills needed to work directly with patients on a regular basis. Strategies that a group of students, instructors, or clinicians use may be beneficial to some but not others, particularly when the student has an impairment such as BVI, and even if the level of practice is differ-

ent from one country to the other and from PT to PTA practice. A heightened awareness of the differences in PT training and available resources in the US and other countries, such as India, can improve US physical therapy educators, clinicians, and students and support our goal of improving health globally.

An additional dissimilarity is that BPA recruits students from their school into the PT program. All of the BPA students have BVI, and the instructors are aware of and are prepared for this issue. PT and PTA programs in the US may admit students with BVI and not know of the student's issues until his or her arrival on campus, particularly programs which conduct no interviews. A student with visual impairment, but not blindness, may even be interviewed with the visual impairment remaining undisclosed. PT and PTA programs cannot legally ask about such impairments in applications and interviews, so it will be hard to strive for more of this type of diversity in the student population. PT and PTA faculty, when faced with a student with special needs due to BVI (or other impairments, activity limitations, or participation restrictions), will have very little time to gather needed equipment, learn how to adapt content, or make necessary accommodations. Our DSS staff recommends that a student apply for accommodations no later than the semester prior to the start of new courses to allow adequate time for processing the request and notifying faculty members.¹⁹ A student with BVI may also have difficulty in securing a job, especially that first job, after graduation. He or she will need to determine how much to disclose, if anything, during the interview and hiring process.

BPA and US students differ from one another in that the participants in our study placed a great importance in community service, providing care for the needy, and caring for their families. While 2 studies^{16,17} reveal that PT students in the US may share some of these same concerns, the theme of caring for families has not been reported. The BPA students and clinicians discussed the pride they had in being able to contribute to their families (immediate and extended) in regards to health care and financial needs. One should note that the American Physical Therapy Association (APTA) Core Values include altruism, which highlights the importance the physical therapy profession places on serving underserved and underrepresented populations.²⁶ As more programs adopt local and global service learning, community engagement, or pro bono clinic experiences into their curriculum, PT students in the US strengthen their professional growth and sense of social responsibility in their commu-

nities.^{16,17}

We acknowledge that potential biases of the authors (4 of Gujarati descent and another author with Stargardt's Disease, leading to progressive vision loss with macular degeneration) in this study. However, we also feel that our backgrounds are a strength to this study, allowing us to identify with the members of the BPA community, as some of us have experienced some of the same desires and frustrations that they have. Having authors with Gujarati backgrounds facilitated the coding and cultural interpretative aspects of data analysis. Member checks, careful translation and back-translations, independent open-coding, and triangulation of data were used in an effort to maintain accuracy and trustworthiness of the data and resultant analyses.

This qualitative study explored the lived experiences of PT students, instructors, and clinicians at BPA in India. The phenomenological research tradition was used in order to gain in-depth knowledge of their professional, personal, and community lives. Due to the small sample size of a unique population, limited generalizability is possible in how the information gained from this study can be used by PT and PTA educators in the US. The level of professional PT education is different between India and the US, but similarities and differences exist between the ways in which students, faculty, and clinicians, with or without BVI, gain knowledge and work with patients. Those with BVI face unique but surmountable challenges. The participants in this study enhance our understanding of how we can accept and accommodate students, faculty, and clinicians with BVI in classrooms or clinics in the US. To an extent, integration of students with BVI has started to occur in accredited PT, and possibly PTA, programs in the US. Although we have not had a PT student with complete blindness, our limited exposure has shown us that PT students with marked VI can successfully complete academic and clinical requirements of our program, not only through hard work and financial, educational, and family support, but also through perseverance in requesting accommodations and through assistance to faculty and staff in learning how to enhance educational experiences. At this time, the experiences of the PT program at TWU support the contention that students with BVI can rise to the challenges they face and become PTs in our communities. Continued research is needed in regards to the lived experiences of PT and PTA students with BVI and other impairments, activity limitations, and partici-

pation restrictions in the US and abroad. We hope that the insights gained by conducting this study may be used, along with the knowledge from other similar programs around the world, to not only inspire PT and PTA programs in the US to consider accepting students with BVI, but also for health care facilities to hire them to work as PTs and PTAs.

ACKNOWLEDGEMENTS

The authors would like to acknowledge the participants in this study for the insight they have offered. We would also like to thank the Blind People's Association, Gujarat, India, The Lighthouse of Houston, Houston, Texas, and the Texas School of the Blind and Visually Impaired, Austin, Texas.

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Appendix A. Interview Questions

Students

1. What is your age?
2. What is your past education?
3. What was the mechanism of your visual impairment?
4. How did you come to know about physiotherapy program at Blind People's Association?
5. I'm interested in learning more about your decision for choosing physiotherapy as a career. What is it about the program at BPA that led you to become a part of it?
6. What have you learned thus far in physiotherapy school?
7. What are you currently learning?
8. How does your visual impairment affect your learning?
9. What is the most rewarding part of this program at BPA? What do you like about the program at BPA?
10. What is the most frustrating part of this program at BPA? What do you dislike about the program at BPA?
11. What accommodations have you had to make compared to previous school experiences? What things have you asked for to help with your learning?
12. How have your learning habits changed from the beginning of program to now?
13. What are your career goals?

Teachers

1. What is your age?
2. What was the mechanism of your visual impairment? (as applicable)
3. What are your credentials?
4. What made you decide that you wanted to teach at BPA for this physiotherapy school?
5. How do you teach students to accommodate for their visual impairment in order to be successful physiotherapist?
6. Did you receive any additional training in order to effectively teach at BPA?
No – next question
Yes – 1) What kind of training did you receive?
7. How have you changed your teaching methods as a result of teaching at BPA?
8. What is the most rewarding part of teaching at this program? What do you like about teaching at this program?
9. What is the most frustrating part of teaching at this program? What do you dislike about teaching at this program?
10. Based on your experience what are the strengths of the program at BPA?
11. Based on your experience what are the weaknesses of the program at BPA?
12. If you could change one or two things about the program at BPA, what would it/they be?

Clinicians

1. What is your age?
2. What was the mechanism of your visual impairment?
3. What are your credentials?
4. How long have you been practicing physiotherapy?
5. How difficult was it to find employment after graduation from BPA?
6. What accommodations has your employer made for you in order to practice effectively?
7. How does your disability affect your job?
 - a. Ability to assess patients?
 - b. Ability to treat?
 - c. Ability to communicate with other health professionals
8. What is the most rewarding part of working as a physiotherapist?
9. What is the most frustrating part of working as a physiotherapist?
10. Based on your experience, what are the strengths of the program at BPA?
11. Based on your experience, what are the weaknesses of the program at BPA?
 - a. What would you recommend they change?
 - b. Do you go to conferences? What types?