



Promotion of Empathy for Persons with Special Needs in 3rd year Dental Students at Penn Dental Medicine

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Background

- Since 2019, The Commission on Dental Accreditation requires that dental schools train their students in **managing the treatment** of patients with intellectual/developmental disabilities.
- The more prepared dental students feel to treat patients with special health care needs (SHCN), the more motivated and more likely they are to treat these individuals.
- Besides the dental knowledge on how to treat patients, empathy defined in a clinical context, as the **physician's ability to understand patients' emotions, is essential in developing a caring therapeutic relationship with the patient, especially a patient with SHCN.**
- A very high percentage of health professionals find it hard to develop empathetic communication in their everyday practice.
- Factors that influence negatively the development of empathy are the high number of patients that professionals must manage, the lack of adequate time, the focus on the therapy but also the lack for education in empathy.
- Different intervention methods including patient narrative and creative arts, writing, drama, communication skills training, problem-based learning, interprofessional skills training, patient interviews etc. have been used to enhance empathy in medical students.

Methods

- Overseen by IRB of the University of Pennsylvania
- Third year dental students** at Penn Dental Medicine were asked to **completed an initial 27-question survey. The survey was adapted** from the Dental Students' Attitudes Toward the Handicapped Scale (DSATHS).
- The students then watched 3 selected videos about **Autism Spectrum Disorder, Down Syndrome, and Marfan Syndrome** from the Faces Redefining the Art of Medical Education (FRAME) collection.
- A week later, the students were asked to complete the same **survey again**.
- Responses were recorded on a Likert Scale** ranging from Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree.
- Responses** were then coded into **binary** (1 = consistent with empathy and 0 = not consistent with empathy) **based on their positive and negative sentiment**. Neutral answers were considered consistent with empathy during this coding process.
- Questions** asked with a **negative connotation** were marked in the survey in analysis with an asterisk as the answers had the **opposite sentiment**.
- The McNemar's test was used to analyze the data.
- FRAME (Faces Redefining the Art of Medical Education)** has a database of videos featuring individuals with different developmental conditions and SHCN.
- These videos feature individuals with these conditions in a way that "departs from the patient as specimen model that most medical literature uses."
- In the videos, people with these conditions are interviewed and shown in a way that captures their humanity and beauty.
- Information in this video provides students, professionals, educators and the general public with relevant information about each condition in a way that lets them see individuals with these conditions as the real people that they are.

Results

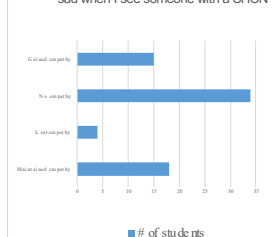
- In total, 71 students out of a class of 179 students chose to participate in the study and were included for statistical analysis.

Survey Binary Analysis	Maintained empathy	Lost empathy	Gained empathy	p-value	OR
1. Someone in my life has a special health care need.	80.29% (70/87)	40.63% (29/71)	26.34% (19/71)	0.7388	
2. I would be able to spend a day with a person who has a SHCN.	67.94% (57/84)	0.00% (0/71)	21.27% (15/71)	0.1373	
3. I feel sad when I see someone with a SHCN.	40.72% (29/71)	45.03% (32/71)	55.71% (40/71)	0.0017	
4. I feel upset when I see someone with a SHCN.	40.72% (29/71)	34.23% (24/71)	37.23% (26/71)	0.0017	
5. People with a SHCN can be expected to reach the same standard of oral hygiene as other people.	34.47% (24/70)	81.13% (58/71)	10.14% (7/71)	0.0004	
6. Patients with a SHCN are too disruptive in the dental office for proper treatment.	60.01% (43/71)	10.41% (7/71)	34.23% (24/71)	0.1179	
7. Oral hygiene instruction for people with a SHCN has little to no effect.	64.93% (46/71)	22.82% (16/71)	45.03% (32/71)	0.1432	
8. Aesthetic dental treatment is just as important for people with a SHCN as it is for other people.	87.94% (79/90)	22.82% (16/71)	0.00% (0/71)	0.1373	
9. People with a SHCN can successfully live on their own and take care of themselves.	48.97% (35/71)	48.45% (34/71)	11.13% (8/71)	0.1432	
10. Dentists should reserve the right to not treat people with a SHCN.	13.74% (10/73)	68.45% (50/73)	81.13% (59/73)	0.593	
11. People with a SHCN pose no special health risks to other patients and dental personnel.	43.06% (31/72)	91.27% (66/72)	81.13% (59/72)	0.8084	
12. Dentists should be paid more money for treating people with a SHCN compared to non-special people.	44.94% (32/71)	34.23% (24/71)	91.27% (66/72)	0.1317	
13. People with a SHCN can be trusted to keep their appointments just as much as other people.	13.74% (10/73)	57.04% (41/72)	78.86% (57/73)	0.5837	
14. Treating people with a SHCN is highly rewarding.	89.07% (63/71)	22.82% (16/71)	0.00% (0/71)	0.0004	
15. Patients with a SHCN make other patients feel uncomfortable in the waiting room.	61.89% (44/71)	10.41% (7/71)	79.86% (57/72)	0.0004	
16. General dentists should refuse to treat people with a SHCN unless they are accompanied.	45.63% (32/71)	57.04% (41/72)	10.14% (7/71)	0.1373	
17. I have personal experience working with people with a SHCN.	45.91% (33/72)	20.82% (15/72)	22.82% (16/71)	0.7055	
18. Each dental case should be assessed individually irrespective of whether the patient has a SHCN.	65.91% (47/71)	20.82% (15/72)	22.82% (16/71)	0.7055	
19. Laws should be introduced to prevent dentists from discriminating against people with a SHCN.	64.93% (46/71)	40.63% (29/71)	0.00% (0/71)	0.7055	
20. There is no point in discussing a treatment plan with people with a SHCN as they will not understand it.	65.91% (47/71)	40.63% (29/71)	22.82% (16/71)	0.4342	
21. Treating patients with a SHCN causes too much stress for general dental personnel.	60.01% (43/71)	34.23% (24/71)	22.82% (16/71)	0.0004	
22. It is better for all concerned if people with a SHCN attend specialist clinics rather than general dental practices.	37.02% (26/71)	68.45% (50/73)	12.11% (9/74)	0.0004	
23. People with a SHCN should receive the same quality of care as others.	89.07% (63/71)	11.41% (8/71)	22.82% (16/71)	0.9457	
24. I will welcome patients with a SHCN into my future practice.	89.07% (63/71)	11.41% (8/71)	11.41% (8/71)	0.1373	
25. I will be seeking further training to build on what I currently know after dental school to see patients with a SHCN.	89.07% (63/71)	11.41% (8/71)	11.41% (8/71)	0.0004	
26. I feel comfortable working with and managing patients with a SHCN.	55.71% (40/71)	34.23% (24/71)	45.03% (32/71)	0.0004	
27. People with a SHCN take too much time to treat with.	47.94% (34/71)	22.82% (16/71)	11.13% (8/71)	0.0004	
28. I have previous personal experience working with people with a SHCN.	47.94% (34/71)	40.63% (29/71)	12.11% (9/74)	0.7055	

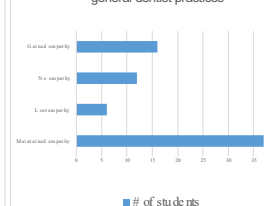
- 21% of students felt sad when seeing someone with a SHCN but after watching the videos did not feel sad. However, most students (47%) still felt the same sadness.
- Over 97% of students maintained that treating people with a SHCN is highly rewarding before and after the video. Similarly, students felt strongly that quality care and aesthetic dental treatment is important for people with SHCN.
- The videos changed 22% of students and now feel that people with a SHCN can be treated in both general dental practices and specialist clinics. Surprisingly, 8% of students felt that after watching the videos that specialist clinics are preferable to general dental practices.
- Despite not being statistically significant, over 95% of the students said that they would welcome patients with a SHCN into their future practice and they would be seeking further training after dental school.



Changes in Empathy to Statement - "I feel sad when I see someone with a SHCN"



Changes in Empathy to Statement - "It is better for all concerned if people with a SHCN attend specialist clinics rather than general dentist practices"



Discussion/Conclusions

- Empathy is essential in the therapeutic relationship between the health care professionals and their patients, and it has been proven that its contribution is vital to better health outcomes.
- Empathy is positively associated with treatment adherence, increased patient satisfaction, and reduced dental anxiety.
- Dental students gave empathetic answers and are intrinsically empathetic.
- Just one time watching of the FRAME videos, as an intervention to increase empathy in dental students resulted in empathy enhancement in 21% of the dental students.
- At least in medical student studies, empathy seems to increase in the first year of studies but starts decreasing around the third year and remains low up to graduation.
- More studies are needed to access the effectiveness and longevity of different intervention effects in enhancing empathy of dental students for patients especially those with SHCN.

References

- Bedi, R., Champion, J., and Horn, R. (2001). Attitudes of the dental team to the provision of care for people with learning disabilities. *Special Care in Dentistry*, 21: 147-152.
- Clemenson JC, Jones DL, Lacy ES, Hale D, Bolin KA. Preparing dental students to treat patients with special needs: changes in predoctoral education after the revised accreditation standard. *J Dent Educ*. 2012 Nov;76(11):1457-65. PMID: 23144461
- Dao, Loan & Zwetschenbaum, Samuel & Ingelhart, Maria. (2005). General Dentists and Special Needs Patients: Does Dental Education Matter?. *Journal of dental education*. 69: 1107-15. 10.1002/jdent.2005.69.10.110704011.
- Frame: Positive Exposure. (2021, December 23). Retrieved April 6, 2022, from <https://www.positiveexposure.org/frame/>
- Incian, ML, Meyer, BD. Pre-doctoral special healthcare needs education: Lost in a crowded curriculum. *J Dent Educ*. 2020; 84: 1011-1015. <https://doi.org/10.1016/j.jdent.2020.101115>
- National Council on Disability. (2022, March 7). *AI NCD's recommendation, all U.S. dental schools will train students to manage treatment of people with intellectual, developmental disabilities*. NCD.gov. Retrieved April 6, 2022, from <https://nccd.gov/newsroom/2019/dental-schools-000>
- Vainio, Lauren & Krause, Me & Ingelhart, Maria. (2011). Patients with Special Needs: Dental Students' Educational Experiences, Attitudes, and Behavior. *Journal of dental education*. 75: 13-22. 10.1002/jdent.2037.75.1.1305018.