General and Special Educators' Basic Information and Experience with Cleft Palate

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Two hundred and sixteen general and special educators completed a 25-item questionnaire which was designed to assess their knowledge of and experience with children with cleft palate. Special educators were found to be better informed and had more experience with these children than general educators. Both groups of educators, however, were deficient in basic information regarding cleft palate and associated problems, and acknowledged limited academic and classroom experience with this population. Yearly continuing education programs are essential for educators, because they are important members of the cleft palate child's habilitation team.

KEY WORDS: Educators, experience with cleft palate, educational needs

Two integral members of the cleft palate child's habilitation team are the general and the special educator. These teachers are expected to assess, counsel, and educate a population of children with whom they probably have received little formal educational instruction or exposure. Do public school teachers have adequate basic information regarding cleft palate, and are they cognizant of the problems that are associated with this condition? What are the educational needs of these teachers with respect to cleft palate?

Ortiz-Monasterio (1975) commented that "educating the public is quite important. Deformities are viewed more rationally when they are properly explained, and when the possibilities for treatment are outlined. . . ." How well informed are the general public and professional community regarding basic information about cleft palate and associated problems? Tretsven (1965); Crocker and Crocker (1970); Lass, Gasperini, Overberger, and Connolly (1973); and Pannbacker, Lass, and Starr (1979) conducted a series of studies in an attempt to answer this question. Tretsven (1965) and Crocker and Crocker (1970) found that the general public and even the parents of children with cleft palate lacked basic information about cleft palate and associated problems. Lass, et al. (1973) ascertained that medical and dental students at the West Virginia University Medical School were not adequately informed in these areas. Finally, Pannbacker, et al. (1979) reported that professionals (plastic surgeons, dentists, and speech pathologists) had more knowledge and experience with the cleft palate population than parents, and parents were better informed and had more exposure than undergraduate and graduate students (dental hygiene, nursing, speech pathology, medical, and dental). They concluded that pre-professional and continuing education programs are necessary for those individuals involved in the cleft palate habilitation process.

No studies were found, however, that surveyed the attitudes and needs of professional educators with respect to children with cleft palate. A 25-item questionnaire was designed and distributed to a large group of general and special educators in an attempt to determine their educational needs.

Sample

The questionnaires and a cover letter explaining the purposes of the survey were

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mailed to seven county and two city school superintendents during a 10-month period (March 1980–December 1980). The superintendents distributed the information to the specified general and special educators within their school system. Responding to the questionnaire was voluntary.

Of the 400 questionnaires mailed, responses were obtained from 216 (54%) general and special educators who worked in seven county and two city school systems in Western and Central Virginia. The respondents represented the following teaching professions: (1) 146 general educators, including 30 kindergarten and 116 first through fourth grade teachers, and (2) 70 special educators, including 25 teachers of the trainable and educable mentally retarded (TMR–EMR teachers), 22 learning disability and remedial reading teachers, and 23 school guidance counselors and psychologists. Data were not available regarding respondent sex, age, number of years of professional teaching experience, and degree status (it was assumed that all respondents had completed the requirements for a bachelor's degree, since that is the minimum degree requirement necessary to obtain a professional teaching certificate in Virginia).

Method

Stimulus Materials. Sixteen of the 25 items on the questionnaire were adapted from the work of Lass, et al. (1973) and Pannbacker, et al. (1979). The remaining nine items were prepared by this investigator. The questionnaire consists of a variety of question types including: ten true-false, eight yes-no, four multiple choice, two fill ins, and a short essay (Appendix A).

The following topics were addressed on the survey: (1) basic information descriptive of cleft palate including: presence of psychological, language, hearing, cognitive, and speech problems, etiological and epidemiological facts, rehabilitation techniques and goals, the predominant characteristic of cleft palate speech, the state agency that provides funding for surgical and prosthetic management, and a definition of cleft palate, and (2) information regarding experience with cleft palate obtained through classroom exposure, academic coursework, and reading.

The standard responses used to score the entries on the questionnaire were obtained from the cleft palate literature and are reproduced in Appendix A (Roberts, 1960; Spriestersbach and Sherman, 1968; Fraser, 1971; Koepp-Baker, 1971; Wells, 1971; Bluestone, Paradise, Berry, and Whittel, 1973; Lass, et al., 1973; Powers, 1973; Spriestersbach, Dickson, Fraser, Horowitz, McWilliams, Paradise, and Randall, 1973; Weiss, 1974; Burdi, 1977; Morris and Tharp, 1978).

Results

The results of this investigation will be compared with the Lass (Lass, et al., 1973) and Pannbacker (Pannbacker, et al., 1979) studies.

BASIC INFORMATION ABOUT CLEFT PALATE. The number and percentage of correct responses made by general and special educators to items 1–14 and 19–25 of the questionnaire are presented in Tables 1 and 2. As a group, respondents were considered to have demonstrated adequate knowledge regarding an item on the questionnaire if more than 56% of the group membership responded correctly to the item. This figure was extrapolated from the raw data reported by Lass and Pannbacker.

An interpretation of the findings reported in Table 1 and 2 follows:

1. Except for guidance counselors and school psychologists, the majority of special and general educators were not cognizant of the fact that children with cleft palate have a higher incidence of hearing loss than noncleft children. This finding differs from that reported by Lass and Pannbacker. In their studies, the majority of students (with the exceptionof dental hygiene and student nurses) parents, and professionals knew that cleft palate children have a higher incidence of hearing loss.

2. Only the TMR–EMR teachers knew that preferential classroom seating is a necessity for most kindergarten and primary level children with clefts.

3. In total, 83% of the general and 76% of the special educators were under the misconception that children with cleft palate experience significant language problems. In the Lass and Pannbacker studies, the majority of the students (86%), parents (78%), and professionals (72%) were aware that the incidence of delayed language was higher in the cleft

TABLE 1. Number and Percentage of Correct Responses by General Educators to Items 1–14 and 19–25 on the Cleft Palate Questionnaire

Item Description	*Kindergarten*		*Primary Grades*		*All General Educators*	
	n = 30		*n = 116*		*n = 146*	
	N	*%*	*N*	*%*	*N*	*%*
Part A						
1. Hypernasal from adenoidectomy	11	37	53	46	64	44
2. Surgical closure palate reduces middle ear	25	83	92	79	117	80
3. Preferential seating not necessary	9	30	42	36	51	35
4. Etiological and environmental agents	19	63	53	46	72	49
5. Cleft lip and palate always occur together	26	87	96	83	122	83
6. Incidence varies according to sex	10	33	35	30	45	31
7. Cleft palate personality is real	9	30	27	23	36	25
8. Ultimate aim of rehabilitation	19	63	85	73	104	71
9. Language impairment is significant	6	20	19	16	25	17
10. Evaluate prior to tonsil-adenoidectomy	6	20	30	26	36	25
Part B						
11. Incidence of clefting with another cleft in family	17	57	68	59	85	58
12. Incidence of hearing loss is higher	15	50	62	53	77	53
13. Intelligence lower than normal	29	97	115	99	144	99
14. All cleft palate children have speech problems	15	50	54	46	69	47
Part C						
19. Alternatives to cleft palate surgery	19	63	54	46	73	50
20. Incidence of clefting in U.S.A.	14	47	54	46	68	46
21. Etiological time period	15	50	45	39	60	41
22. Racial incidence of clefting	1	3	0	0	1	7
Part D						
23. Most common speech problem	8	27	23	20	31	21
24. State agency providing funding	6	20	23	20	29	20
Part E						
25. Definition of cleft palate	18	60	78	67	96	66

population; however, the severity of the language delay was not addressed.

4. The overwhelming majority of special (96%) and general educators (99%) knew that cleft palate children do not necessarily have below average intelligence. Eighty-two percent of the medical and 80% of the dental students surveyed in the Lass study also knew this fact.

5. Only the learning disability and remedial reading teachers incorrectly defined cleft palate. The majority of the other special (76%) and the general educators (66%) correctly defined it. Similar findings were reported by Lass and Pannbacker.

6. Describing the most common speech problem associated with cleft palate was easy for the TMR–EMR teachers; however, only 36% of the learning disability and remedial reading teachers, 22% of the guidance counselors and school psychologists, 27% of the kindergarten, and 20% of the primary grade teachers were aware that hypernasality was the predominant problem.

7. Many of the general educators (53%) and most of the TMR–EMR teachers (84%) incorrectly thought that all children with cleft palate experience speech problems. Eighty percent of the students in the Lass study expressed a similar belief. The learning disability and remedial reading teachers, and the guidance counselors and school psychologists felt differently.

8. Seventy-five percent of the general and 73% of the special educators believed that the child with a cleft palate develops an abnormal personality. Students, parents, and professionals in the Lass and Pannbacker studies also stated that the cleft palate child's personality was abnormal.

9. Most of the general (71%) and special educators (69%), excluding guidance counse-

TABLE 2. Number and Percentage of Correct Responses by Special Educators to Items 1–14 and 19–25 on the Cleft Palate Questionnaire

Item Description	*TMR-EMR*		*Learning Disability Remedial Reading*		*Guidance Counselors School Psychologists*		*All Special Educators*	
	n = 25		*n* = 22		*n* = 23		*n* = 70	
	N	%	*N*	%	*N*	%	*N*	%
Part A								
1. Hypernasal from adenoidectomy	12	48	13	59	11	48	36	51
2. Surgical closure palate reduces middle ear	23	92	18	82	20	87	61	87
3. Preferential seating not necessary	14	56	8	36	12	52	34	48
4. Etiological and environmental agents	9	36	14	64	10	43	33	47
5. Cleft lip and palate always occur together	25	100	22	100	19	83	66	94
6. Incidence varies according to sex	10	40	10	45	5	22	25	36
7. Cleft palate personality is real	11	44	1	4	7	30	19	27
8. Ultimate aim of rehabilitation	20	80	13	59	12	52	45	64
9. Language impairment is significant	5	20	5	23	7	30	17	24
10. Evaluate prior to tonsil-adenoidectomy	12	48	4	18	3	13	19	27
Part B								
11. Incidence of clefting with another cleft in family	15	60	12	54	14	61	41	58
12. Incidence of hearing loss is higher	12	48	12	54	15	65	39	55
13. Intelligence lower than normal	24	96	22	100	21	91	67	96
14. All cleft palate children have speech problems	4	16	13	59	16	69	33	47
Part C								
19. Alternatives to cleft palate surgery	12	48	14	64	10	43	36	51
20. Incidence of clefting in U.S.A.	16	64	8	36	6	26	30	43
21. Etiological time period	15	60	12	54	15	65	42	60
22. Racial incidence of clefting	0	0	0	0	0	0	0	0
Part D								
23. Most common speech problem	19	76	8	36	5	22	32	46
24. State agency providing funding	5	20	2	9	4	17	11	16
Part E								
25. Definition of cleft palate	23	92	12	36	15	65	50	71

lors and school psychologists, understood that the ultimate goal of rehabilitation for the cleft palate child is to improve speech.

10. The majority of general and special educators were cognizant that early surgical closure of the cleft of the palate reduces the number of middle ear infections that these children experience.

11. General and special educators did not know that it is a good policy to recommend a speech mechanism examination for any child scheduled to undergo a tonsil-adenoidectomy.

12. Few of the special (16%) and general educators (20%) were aware that a state agency in Virginia, the Bureau of Crippled Children, provides funding for surgical and prosthetic management for children with cleft palate.

13. Most kindergarten (63%) and learning disability and remedial reading teachers (64%) were cognizant that prosthetic appliances and obturators were used as alternatives to surgery to close clefts of the palate. Very few of the other general and special educators were aware of these alternatives.

14. Except for learning disability and remedial reading teachers, the majority of the other special and general educators did not know that some children become hypernasal because of an adenoidectomy.

15. Most of the kindergarten (63%) and learning disability and remedial reading

teachers (74%) believed that a cleft of the palate can be attributed to exposure to environmental teratogens. The majority of the remaining general and special educators were unaware of the effect of these teratogens.

16. General and special educators, with the exception of the learning disability and remedial reading teachers, understood that if someone else in the family had a cleft palate, the chances were greater than in the general population that one of their children might be born with a cleft.

17. Almost all the special (94%) and general educators (83%) recognized that a cleft of the palate does not always include a cleft of the lip. This finding is in accord with the data reported by Lass and Pannbacker.

18. Very few of the special and general educators were acquainted with the incidence figures for cleft palate in the United States. In addition, they did not know that the incidence of clefting differs according to sex and among races.

Experience with Cleft Palate. The number and percentage of "yes" responses made by general and special educators to items 15–18 of the questionnaire are reproduced in Tables 3 and 4, respectively. These data are discussed below:

1. Only 51% of the general and 54% of the special educators had ever seen a repaired or unrepaired cleft of the lip and/or palate. In the Lass and Pannbacker studies, 74% and 70% of the students reported that they had seen a cleft palate.

2. The majority of the general and special educators had never had a cleft palate child in their classroom.

3. Only the TMR–EMR teachers acknowledged that cleft palate had been discussed in their academic coursework.

4. Few of the general (23%) and special (18%) educators had done any reading on the topic of cleft palate.

Comparison between General and Special Educators. The special educators knew more about cleft palate than the general educators. As a group, they correctly responded to 50% of the 21 basic information items on the questionnaire, while the general educators correctly answered 46% of these items. Similar levels of response were reported by Pannbacker for students (50%) and parents (53%). As would be expected, the dental and medical students in the Lass study, and the professionals in the Pannbacker study typically knew more about the cleft palate condition.

The respondents were ranked on the basis of percentage of correct response for the basic information section of the questionnaire as follows: TMR–EMR teachers were highest ranked; guidance counselors and school psychologists were next; learning disability and remedial reading and kindergarten teachers tied; and primary level teachers had the lowest ranking.

Pearson r product-moment correlation coefficients were computed on the data to determine if any relationship existed between knowledge about cleft palate (number of correct responses for the basic information items) and experience with cleft palate (number of yes responses for the experience items). No consistent relationship was apparent between knowledge and experience for either the special ($r = -.02$) or general educators ($r = +.27$).

Discussion

Special educators, particularly TMR–EMR teachers, were better informed regarding the cleft palate condition than general educators. Both groups of educators, however, demonstrated an overall deficiency in basic

TABLE 3. Number and Percentage of "Yes" Responses by General Educators to Items 15–18 on the Cleft Palate Questionnaire

Item Description	*Kindergarten*		*Primary Grade*		*All General Educators*	
	n = 30		*n = 116*		*n = 146*	
	N	*%*	*N*	*%*	*N*	*%*
Part B						
15. Have you ever seen a cleft palate?	14	47	60	52	74	51
16. Have you had a cleft palate child in class?	7	23	23	20	30	20
17. Has cleft palate been discussed in coursework?	3	10	20	17	23	16
18. Have you read about cleft palate?	7	23	27	23	34	23

TABLE 4. Number and Percentage of "Yes" Responses by Special Educators to Items 15–19 on the Cleft Palate Questionnaire

Item Description	*TMR-EMR*		*Learning Disability and Remedial Reading*		*Guidance Counselors and School Psychologists*		*All Special Educators*	
	n = 25		*n = 22*		*n = 23*		*n = 70*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Part B								
15. Have you ever seen a cleft palate?	12	48	10	45	16	69	38	54
16. Have you had a cleft palate child in class?	9	36	3	14	11	48	23	33
17. Has cleft palate been discussed in coursework?	16	64	7	32	2	9	25	36
18. Have you read about cleft palate?	12	48	4	18	2	9	18	26

information regarding cleft palate and associated problems. Primary grade level teachers were the least well informed of all respondents.

The majority of the teachers were unaware of the following basic information, which could exert an adverse effect on the cleft palate child's classroom performance: (1) cleft palate children have a higher incidence of hearing loss than noncleft children; consequently, preferential classroom seating is a necessity for most; (2) hypernasality is the most common speech problem associated with cleft palate. In addition, most of the educators incorrectly thought that all children with cleft palate experience speech problems; (3) children with cleft palate typically do not experience significant language problems; and (4) these children usually do not develop a "cleft palate personality" marked by abnormal psychological adjustment. In addition, the general and special educators were uninformed regarding the following etiological and epidemiological information: (1) some noncleft children become hypernasal as a result of an adenoidectomy; (2) some clefts of the palate can be attributed to exposure to environmental teratogens during the first trimester of pregnancy; (3) the incidence of clefting in the United States; and (4) the sexual and racial differences in the incidence of cleft palate.

Most of the educators demonstrated adequate knowledge for the following basic information regarding cleft palate: (1) early surgical management of clefts of the palate reduces the incidence of middle ear pathology; (2) children with cleft palate usually have normal intelligence; (3) a definition of cleft palate; and (4) a cleft of the palate does not always include a cleft of the lip.

Special educators, particularly TMR–EMR teachers, had more experience with cleft palate than general educators. Overall, both groups had limited direct or indirect experience with this population. Only 20% of the general and 34% of the special educators indicated that they had had a cleft palate child in their classroom. Furthermore, with the exception of the TMR–EMR teachers, most of the other educators stated that they had never taken an academic course in which cleft palate was discussed, nor read on the subject. No relationship existed between knowledge and experience with children with cleft palate for either respondent group.

The magnitude and importance of the deficiencies in basic information, misconceptions, and limited experience with cleft palate children demonstrated by the general and special educators in this study warrants immediate attention. Since these educators are members of the cleft palate child's habilitation program, it is imperative that we meet their educational needs. Yearly continuing education programs should be developed for this purpose. These programs should be designed to increase the general and special educators' knowledge of audiological, speech, language, psychological, etiological, and epidemiological facts concerning children with cleft palate. Meeting the educational needs of these teachers could enhance the educational process for the child with cleft palate.

Conclusions

The following conclusions can be made from the data: (1) general and special educators are deficient in basic information regarding cleft palate and associated problems; (2) general and special educators have limited

direct and indirect experience with the cleft palate population; and (3) continuing education programs in the area of cleft palate are necessary for general and special educators.

Appendix A

Instructions

I am requesting your assistance in an important matter. More and more of you will be coming in direct contact with organically impaired children in the immediate future because of Public Law 94-142. I am interested in determining the level of basic knowledge that exists concerning the cleft palate child. To determine this level of knowledge I ask that you complete the following questionnaire. Participation in this project is strictly voluntary. Please do not sign your name to the questionnaire. Simply state on each questionnaire your professional title, for example, kindergarten, first grade, special education teacher, etc.

Key to the Questionnaire

Part A: True-False

T 1. Some children become hypernasal as a result of having their adenoids removed.
T 2. Early surgical closure of the cleft of the palate could reduce the number of middle ear infections that these children experience.
F 3. Preferential classroom seating is not a necessity for most primary grade level cleft palate children.
T 4. Cleft of the palate can be caused by such environmental agents as cortisone, x-rays, diabetes, and maternal anoxia.
F 5. The cleft of the palate always includes a cleft of the lip.
T 6. The incidence of clefting differs according to sex.
F 7. Due to the stress and adverse conditions that children with a cleft palate undergo early in life, the majority of them develop certain psychological defense mechanisms which account for the cleft palate personality.
T 8. The ultimate aim of rehabilitation treatment for the cleft palate patient is improvement in their speech.
F 9. Children with cleft palate experience significant language impairments.
T 10. Before any child is scheduled for a tonsil-adenoidectomy, their speech mechanism should be evaluated by a speech pathologist.

Part B: Yes-No

Yes 11. If someone in your family has a cleft palate, the chances are greater than in the general population that one of your children might be born with a cleft.
No 12. Children with cleft palate have a higher incidence of hearing loss than the noncleft palate population.
No 13. Cleft palate children typically have below-normal intelligence.
No 14. All cleft palate children experience speech problems.
____ 15. Have you ever seen a repaired or unrepaired cleft of the lip and/or palate?
____ 16. Have you ever had a cleft palate child in your classroom, in a counseling session, etc.?
____ 17. Has the topic of cleft palate ever been discussed in your preparatory undergraduate or graduate academic coursework?
____ 18. Have you ever done any reading on the topic of cleft palate?

Part C: Multiple Choice

E 19. An alternative to surgery to close a cleft of the palate includes:
a. braces
b. obturator
c. speech therapy
d. prosthetic appliances
e. b and d

A 20. In the United States, clefting occurs in
a. 1 in a 1000 live births
b. 2.5 in 1000 live births
c. 1 in 700 live births
d. 1 in 100 live births
e. 1 in 2000 live births

B 21. The factors responsible for the occurrence of cleft palate become operative during
a. the neonatal period
b. the first trimester of pregnancy
c. the second trimester of pregnancy
d. the third trimester of pregnancy
e. during the paranatal period

D 22. The frequency of cleft palate is highest among
a. Caucasians
b. Hispanics
c. Blacks
d. Orientals
e. frequency is equal across all groups

Part D: Fill in the blanks

23. The speech characteristic most often associated with cleft palate is hypernasality.
24. What state agency provides funding for surgical or prosthetic management for cleft palate children? Bureau of Crippled Children or Public Health Dept.

Part E: Definition

25. What is a cleft palate? Congenital fissure in the median line of the palate which may extend through the uvula, soft palate, and hard palate.

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