A Survey of Information on Stuttering Disseminated in Health-Related Publications Between 1970 and 1994

Aperçu de l'information sur le bégaiement diffusée dans les publications de nature médicale entre 1970 et 1994

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Abstract

Family physicians, paediatricians, and other health care workers often are the first professionals consulted by parents who are concerned about their child's speech fluency, and by adults who stutter. They are asked for advice regarding the nature of the problem and recommended treatment. The purpose of the present study was to investigate the type of information on stuttering that is available in health-related publications aimed at these health professionals. The survey of the literature found a generally balanced presentation of the definition, aetiology, and treatment of stuttering. Often, however, the information was dated, especially in the more recent publications. Environmental intervention recommendations were typically limited to advice for the parents not to worry and to leave the child's speech alone. Suggestions for direct treatment most often made reference to "syllable timed" speech. In addition, only approximately one third of the texts included an explicit referral to a speech-language pathologist. It is concluded that speech-language pathologists need to play a pro-active role in the dissemination of current information about stuttering, parent counselling, and intervention to other health-care professionals.

Abrégé

Le médecin de famille, le pédiatre ou un travailleur de la santé sont souvent les premiers consultés par les parents qui s'inquiètent des difficultés d'élocution de leur enfant et par les adultes qui bégaient. Ces professionnels de la santé doivent donner leur avis sur la nature du problème et recommander un traitement. L'étude avait pour but d'identifier le type d'information sur le bégaiement disponible dans les publications de nature médicale destinées aux professionnels de la santé. Le dépouillement de la documentation révèle une présentation généralement bien dosée de la définition, de l'étiologie et du traitement du bégaiement. L'information fournie est néanmoins ancienne, surtout dans les publications les plus récentes. Les recommandations se bornent typiquement à conseiller aux parents de ne pas s'inquiéter, de ne pas essayer de corriger la façon dont parle leur enfant. Les traitements directs suggérés font plus souvent qu'autrement référence au langage rythmé par syllabes. En outre, le tiers environ des articles seulement fait explicitement allusion à un orthophoniste. On en conclut que les orthophonistes doivent jouer un rôle dynamique dans la diffusion de l'information existante sur le bégaiement, dans les conseils prodigués aux parents et dans l'intervention auprès des autres professionnels de la santé.

Parents who are concerned about stuttering in their children, or adults who stutter, often first seek advice from their family physician regarding how to deal with the observed speech difficulties. However, an often-heard comment from speech-language pathologists is that physicians, as well as other health professionals, sometimes seem to have insufficient information about the nature of stuttering and how to deal with it. Indeed, the impression seems to be that many health care professionals are not informed adequately about recent developments in the understanding of fluency disorders, and sometimes fail to provide the proper advice that may prevent the development of more advanced stuttering. For instance, Starkweather, Gottwald, and Halfond (1990) stated that "paediatricians typically tell parents that their child will outgrow stuttering" (p. 66). Similarly, speech-language pathology textbooks often include real or fictional case studies where parents were told by their physician to "ignore" the stuttering and that the child would "outgrow" it (Peters & Guitar, 1991). Clearly, the impression that stuttering often is viewed as resulting from parental overconcern about normal childhood disfluencies, and that early intervention is not needed or recommended, is still widespread among health care professionals.

In an attempt to provide health care professionals with up-to-date information regarding the nature and treatment of

stuttering, several organizations and individuals have published informative booklets (Guitar & Conture, 1991) and review articles in professional journals (Boberg & Kalder, 1977; Kroll, 1989). In addition to these publications, however, it seems reasonable to assume that many practicing physicians and other health care professionals, as well as those still in training, gain basic information regarding stuttering from professional textbooks in their discipline. The purpose of the present paper is to survey the published information on stuttering that is available in such textbooks published over the last two decades.

Method

For the purpose of the present study, the search for information on stuttering in health-related printed material was restricted to published English-language text and reference books. No attempt was made to identify information published in professional journals or in information pamphlets distributed to health professionals. In addition, the literature search was limited to books published in 1970 or later. This cut-off date was selected based on the assumption that books published after this date are most frequently consulted by those currently practicing. During the search, a few edited books were found which contained contributions written by speech-language pathology professionals. Such books were not included in our analysis because the purpose of the study was to analyze the information on stuttering provided by other health care professionals to their peers.

Text and reference books were obtained through the University of Toronto libraries using both computerized library catalogue and shelf searches. Books were initially identified through a computerized catalogue search in the fields of family medicine, paediatrics, psychiatry, and child psychology, since professionals in these fields would be most likely to be confronted with stuttering clients in their practice. Books that dealt solely with a specialized topic (e.g., epilepsy, autism, eating disorders) were not included in the original database. All texts that were identified as potential sources of information in this way were retrieved from the library collection. At the same time, and because related books are shelved together in the library collections, books on adjacent shelves were perused for the presence of information on stuttering in an attempt to locate as many books as possible. The table of contents and index of each book were examined for key words such as "stuttering", "stammering", "communication disorders", "speech", or "language". A text was included in the database if it discussed at least one of the following topics on stuttering: definition, aetiology, treatment, or referral to other professionals.

Once all the books located through our search were examined, texts that met all of our criteria outlined above were combined into four main analysis groups: Family Medicine, Child Psychiatry, Paediatrics, and Child Development. In addition, the sources were divided into texts published between 1970-1979, 1980-1989, and 1990-1994. The information on stuttering in each of the texts was summarized into the following four categories: Symptomatology, Aetiology, Treatment Recommendations, and Referrals. The information was categorized into four broad categories: (a) *Symptomatology:* this category included information on how to identify stuttering, the presence of secondary behaviours, and situational and grammatical variability in stuttering frequency and severity; (b) *Aetiology*: information about causal factors in stuttering was categorized as mainly physiological, psychological, environmental, or multidimensional (mixed); (c) *Treatment*: suggestions for intervention were classified as either child-oriented, parent-oriented, both (multidimensional), spontaneous recovery, or no suggestions; and (d) *Referral*: this category included information about professionals which were suggested as appropriate referrals.

Table 1. Total number of books surveyed and number of books containing information on stuttering

Category	Total number number of books	Number of books containing information	Number of books containing information per decade		
			1970-1979	1980-1989	1990-present
Family Medicine	60	6	1(14)	4(39)	1(7)
Paediatrics	69	21	7(18)	10(35)	4(16)
Child Development	44	11	5(9)	6(26)	0(9)
Child Psychiatry	87	36	14(24)	16(48)	6(15)
TOTAL	**260**	**74**	**27(65)**	**36(148)**	**11(47)**

Results

A total of 260 books were identified through our search. Of these books, 74 or 28% contained information on stuttering. Table 1 provides the breakdown of our database along the four groups (Family Medicine, Paediatrics, Child Psychiatry, and Child Development) and the year of publication.

As can be seen, fewer than half of the books in each of the four groups or in each of the three publication periods contained information on stuttering. The data for the four categories is summarized in Table 2.

Symptomatology

Differential diagnosis of normal development disfluencies and early stuttering often is not trivial. Considerable disagreement exists in the literature as to whether these two speech behaviours are categorically distinct or constitute a continuum of disfluencies which differ in frequency of occurrence (Bloodstein, 1995). The first question asked in our analysis, therefore, was whether a definition or description of stuttering was provided in the various texts. In addition, the presence of information regarding the variability of stuttering frequency was examined. Results are shown in Table 2.

Approximately two-thirds of the books included in the present survey included some behavioural description of the core behaviours of stuttering (typically some combination of repetitions, prolongations, and blocks). Whether or not such information was included, differed greatly depending on the analysis groups. Only a few of the Family Medicine textbooks (2/6) included any information on core behaviours in stuttering, while most Psychiatry books (28/36) provided their readers with some behavioural description. Similarly, the majority of both the Paediatrics and Child Development books included such a description. A few authors in each of the four analysis groups used general, non-specific terms, such as "articulation defect", "speech disorder", "dysrhythmia", to characterize stuttering.

Of those who compared stuttering to disfluencies seen during normal speech and language development, approximately half in Family Medicine, Paediatrics, and Child Development characterized stuttering in children as a normal developmental phase that should not immediately lead to concern. The other half stated that stuttering constituted atypical dysfluencies which can be differentiated from normal disfluencies seen during speech and language development. In contrast, the majority of the authors in Child Psychiatry characterized stuttering as an abnormal process which can be differentiated from normally occurring disfluencies.

In general, relatively few authors included a reference to, or description of, the presence of secondary behaviours in stuttering. With the exception of Paediatrics (43%), less than one-third of all texts in each of the four analysis groups mentioned the occurrence of these learned coping or struggle behaviours in children and adults. When secondary behaviours were included, examples typically included movements of the mouth, face, or limbs, verbal circumlocutions, and breathing irregularities.

Only two of the six books in Family Medicine, and 1 of the 21 books in Child Development included any

Table 2. Summary of information on symptomatology, aetiology, and treatment discussed in 74 textbooks in the fields of family medicine, pediatrics, child development, and child psychiatry.

	Symptomatology			Aetiology				Treatment				
Categories	BD	S	V	PH	PS	EN	MX	PF	CF	MD	SR	N
Family Medicine	1	2	2	2	2	1	1	2	1	3	0	0
Paediatrics	13	9	11	4	1	2	10	5	4	5	0	7
Child Development	7	3	1	2	0	1	8	7	1	2	1	0
Psychiatry	28	12	19	5	1	9	20	3	15	12	1	4
TOTAL	**49**	**26**	**33**	**13**	**4**	**13**	**29**	**17**	**21**	**22**	**2**	**11**

BD = behavioural description, S = secondary behaviours, V = variability, PH = physiological, PS = psychological, EN = environmental, MX = mixed, PF = parent focus, CF = child focus, MD = multidimensional, SR = spontaneous recovery, N = no information

information on situational or grammatical variability in stuttering. In the Paediatrics and Child Psychiatry analysis groups, on the other hand, approximately half of the texts included some discussion of variability in the frequency and/or severity of stuttering. Information on grammatical variability typically concerned the fact that stuttering is more likely to occur at the beginning of words and sentences, or on longer words. Situational variability most typically was identified with stress, with a number of authors including some reference to the fluency enhancing effects of masking, recitation, and singing.

Changes from 1970 to Present

A few tentative trends could be distinguished in the texts surveyed. The frequency with which specific descriptions of core behaviours or secondary characteristics were used to characterize stuttering did not seem to change from older to more recent texts. One exception to this was Paediatrics, where the use of such descriptive terms increased from 57% of the texts published between 1970-1979 to 100% in the most recent texts (1990-1994). Overall, relatively few books included information on situational or grammatical variability in stuttering, and no noticeable increase or decrease could be observed over the years. The strongest trend for change was observed in the way stuttering was linked to normal disfluencies. Generally, authors of recent texts were more likely to differentiate stuttering from the normal disfluencies observed in children's speech, and were less likely to state that stuttering is a normal phase in the child's development.

Aetiology of Stuttering

Most texts included some reference to what causes stuttering. While some texts devoted a significant portion of the text to this issue, and reviewed different theories or possible aetiologies, other authors addressed the issue in a short, definitive statement. An attempt was made to categorize the different descriptions into three broad groups: physiological, psychological, and environmental. An author was classified in the physiological group if reference was made to aetiological factors that were to some extent constitutionally based. This included descriptions ranging from brain disorder and genetics to slowness in language development. Psychological explanations typically included reference to some emotional trauma, stress, or anxiety in the child. Some authors linked these psychological factors to environmental events, but if the emphasis was placed on the psychological state of the child, the description was included in the psychological group. The environmental category included descriptions that explained stuttering through the influence of events and/or persons external to the child. A number of authors could not neatly be classified in one of these three categories as they discussed different potential aetiologies and consequently were included in a "combined" category. Results are summarized in Table 2.

Most books surveyed discussed stuttering as resulting from different aetiological variables which may cause stuttering either in isolation or through an interaction between two or more variables. This was true for three of the four analysis groups (Paediatrics: 48%; Child Development: 73%; Child Psychiatry: 56%). The multidimensional nature of stuttering was less likely to be discussed in the Family Medicine books (17%). Instead, the different views of stuttering (physiological, psychological, environmental, or multidimensional) were approximately equally represented in these texts. Overall, 62% of all authors who took a multidimensional view talked about stuttering as resulting from an interaction between all three factors (physiology, psychology, and environment). For the remainder of the authors, some combination between physiology and environment was most likely to be mentioned in the text. Authors who did not describe stuttering as having a multidimensional origin, were most likely to discuss either a physiological (18%) or an environmental (18%) aetiology.

Physiological explanations included references to difficulties with auditory feedback, slowness in language development, efforts of expression which exceed verbal capacity, inherent left handedness, forced right handedness, cerebral dominance confusion, birth injury, poor intellectual abilities, genetic influences, and poor motor coordination. Environmental influences included variables such as environmental stress, domineering or punishing parents, parental overconcern, mothers forcing fluency, overanxious mothers, teasing, bilingualism, poor social background, and dysfunctional families. Very few authors (less than 1%) described stuttering as having psychological roots. These typically included references to anxiety, or some form of personality disorder (such as obsessive-compulsive disorder or oral-sadistic tendencies). An interesting trend was observed when comparing the Paediatrics and the Child Psychiatry books. Paediatrics texts included relatively more references to physiological than environmental aetiologies (19% vs. 10%), while the opposite was true for the Child Psychiatry texts (14% vs. 25%). This difference may reflect a differential bias insofar as how human disorders are viewed within these two medical specialities (more organic vs. more psychosocial).

Changes from 1970 to Present

Overall, no clear trend in the presented information on stuttering could be observed. For the books published between 1970 and 1979, 40% favoured a unidimensional explanation for stuttering, while 56% discussed potential

aetiological variables in more than one aetiological group[1]. For the publications from 1990-present, 40% discussed a unidimensional view, while another 40% took a multidimensional approach. While this may seem to indicate a decline in the number of authors favouring a multidimensional approach, it should be noted that a significant number of the more recent texts did not discuss aetiology. Additionally, combining the results across groups obscures some interesting trends observed in individual groups. For instance, the Paediatrics literature actually showed a trend towards less multidimensional explanations from older to more recent texts (from 71% in 1970-79, to 45% in 1980-89, and none in the more recent texts). Child Psychiatry, on the other hand, showed a reversed trend, with 46% (6/13) of the books published between 1970-1979, 59% (10/17) of the books published between 1980-1989, and 67% (4/6) of the most recent books taking a multidimensional approach. A similar trend was observed in the Child Development literature, with 60% (3/5) of the 1970-1979 books and 83% (5/6) of the 1980-1989 publications describing a multidimensional view.

Treatment of Stuttering

Treatment recommendations for stuttering were categorized into five main groups: "parent-focused", including suggestions to change parental attitudes towards the child's speech, and intervention for psychological problems experienced by the parents; "child-focused", which included direct speech modification or psychological help for the child; "multidimensional", in which a combination of different treatment approaches were suggested (e.g., parent counselling and speech therapy for the child); "spontaneous recovery", in which the stuttering was considered as something that would resolve itself as the child became older; and "none", in which no treatment suggestions were given. Results are summarized in Table 2.

Overall, approximately the same number of authors suggested a child focused (28%) or a multidimensional treatment (29%). Somewhat fewer books included a recommendation for a parent-focused approach as the only means of intervention (23%). Child focused treatment suggestions most typically included some form of "syllabic timing" and relaxation. In addition, a number of authors included the use of behaviour modification, monitoring airflow, shadowing, psychotherapy, working on communication pragmatics, and establishing fluency with familiar materials and gradually increasing the complexity of the language material and/or speech situation. Parent-focused intervention almost always included suggestions to ignore or accept the disfluencies and reduce overconcern.

[1]The percentages do not add up to 100% because not all books included a discussion on aetiology

Again, different trends can be observed when analyzing the four analysis groups separately. Treatment recommendations in books classified under either the Family Medicine or the Paediatrics group were approximately equally distributed among the child-focused, parent-focused and multidimensional categories. Child Development books, on the other hand, were most likely to include a recommendation for parent-focused intervention, while such an approach was not frequently included in Child Psychiatry books, which were much more likely to include some discussion of a child-focused or a multidimensional intervention approach.

Surprisingly, very few texts included an explicit suggestion that stuttering should be left alone and that most children would outgrow the problem. As a matter of fact, only 2 of the 74 books mentioned spontaneous recovery as the preferred "intervention" method. Of course, this number would be higher if we included all books that suggested intervention focusing on reducing parental concern. But, still, this total number (23%) would be less than half the authors who suggest either a child-focused or a multidimensional approach (57%).

Changes from 1970 to Present

Some trends of change could be observed from the older to the more recent texts (except for Family Practice where the limited number of books did not allow for such an analysis). The specific nature of these trends depended on the group under investigation. In Paediatrics, a general trend could be observed to rely less on parent-focused intervention, while the frequency of child-focused intervention recommendations stayed about the same. In the Child Development literature, there was a clear difference between the texts published before and after 1980. All of the older texts (1970-1979) recommended parent counselling as the treatment of choice (100%), while this was the case for only 67% of the more recent texts (1980-1989). At the same time, a tendency was observed to focus more on child-focused treatments in recent books. Finally, more recent Child Psychiatry texts showed a slight increase in parent-focused coupled to a decrease in child-focused recommendations. The net result of this trend was a more balanced and multidimensional approach in more recent literature.

Referrals for Stuttering

Of the six books in the Family Medicine group, only one text (17%), published in 1990, recommended a referral to a speech-language pathologist. In the Paediatrics group, 8 of the 21 (38%) texts included a recommendation for a referral to a speech-language pathologist, primarily based on stuttering severity or age. For this group, 1 of the 21 texts

suggested a referral to a psychiatrist if the stuttering was severe. In the Child Development texts, 4 of the 11 (36%) texts suggested a referral to a speech-language pathologist or to a psychiatrist if the stuttering was chronic. In the Child Psychiatry literature, 12 of the 36 (33%) books included a recommended referral to a speech-language pathologist, with two recommended referrals for a psychological examination. No noticeable change in recommended referrals could be observed from the older to the more recent texts, except for the Child Psychiatry texts. In these latter books, the frequency with which a referral to a speech-language pathologist is recommended increased by 25% over this time span.

Discussion

The purpose of the present study was to survey the information on stuttering available in medical and other health-related books. An attempt was made to limit the survey to general textbooks which provide an overview of different disorders that health practitioners may encounter in their practice. A first important observation is that only 28% of all books surveyed contained any information on stuttering. Only 10% of the books in the Family Medicine category and 33% books in the Paediatrics category provided any such information. This was a surprising observation given the fact that family practitioners and paediatricians often are the first health professionals consulted by parents concerned about their child's speech development. Given the incidence of stuttering in children (5%), one can expect that most of these medical practitioners will be confronted rather regularly with the need to provide advice regarding the nature and recommended treatment for stuttering in children, or even adults. The apparent lack of information on stuttering in general textbooks may mean that many professionals have to rely on incomplete or dated knowledge when consulting clients. Of particular concern was the fact that Family Medicine books were least likely to provide behavioural characteristics of stuttering which may help practitioners in differential diagnosis, typically did not discuss stuttering as a complex disorder that may be multidimensional in nature, and almost never recommended a referral to a speech-language pathologist. Because of the importance of early detection and intervention, these observations clearly reinforce the need for the distribution of informative booklets and other educational materials, such as those distributed by the Stuttering Foundation of America and many other organizations, that are specifically aimed at general medical practitioners and other health care workers.

It is often stated that a number of medical practitioners still view stuttering as caused by the reactions of overly concerned parents towards normal disfluencies. This survey of the literature published over the last 25 years indicates that such a view, if present, is not based on the information provided in textbooks and other publications. Only 17% of all books actually provided a purely environmental explanation of stuttering, the majority (9/13) of which were found in the Child Psychiatry literature. Instead, most sources discussed a number of different variables, that independently or interactively can cause stuttering. Typically, stuttering was presented as resulting from a combination of physiological and environmental factors. Of the physiological factors, genetics and disturbance of auditory feedback were the ones most frequently mentioned. However, references to the influence of other factors such as left handedness and forced right handedness were not infrequently encountered in the present survey. Of the environmental factors causing stuttering, overconcerned or domineering parents were by far the most often cited variables. Generally speaking, it would seem that the information available to medical practitioners is correct in stating that stuttering can best be seen as a multidimensional problem. But some updated information regarding the nature of these dimensions seems to be needed. For instance, frequent reference is made to auditory dysfunction as one of the primary causes of stuttering, a model that is not supported by current research (see Bloodstein, 1995 for a review). On the other hand, more recent theoretical models, such as those that explain stuttering in terms of speech motor deficiencies (Kent, 1984; Neilson & Neilson,1991) or psycholinguistic variables (MacKay & MacDonald, 1984; Postma, et al., 1991, Wingate, 1988) are not referred to. Similarly, heavy emphasis is placed on the (negative) role of parents, especially the mother, in the genesis of stuttering. Clearly, most speech researchers and clinicians presently would hold a less narrow view of the nature of environmental variables that may influence the onset and development of stuttering (Starkweather, 1987; Starkweather, et al., 1990).

In terms of treatment, the present results clearly indicated that very few authors advocated a "wait-and-see" attitude. In total, only 2 of the 74 books suggested to rely on spontaneous recovery as the sole form of intervention. Even when texts which suggested parent-focused intervention as the sole approach are included in this category, less than one out of four books suggests relying on spontaneous recovery as the preferred treatment approach. The majority of books included in the analysis advocated some form of more direct intervention. Overall, approximately equal numbers of texts recommended parent-focused, child-focused, or combined intervention approaches. Interestingly, a distinct difference was found between the Child Development and the Child Psychiatry categories. The majority of texts in the first category suggested parent-focused intervention, while the vast majority of Child Psychiatry texts recommended a

child-focused or combined approach. This difference does not seem to be related to a difference in proposed aetiology as both groups favoured a multidimensional explanation of stuttering.

While a purely "wait-and-see" attitude did not seem to be very widespread in the books surveyed, most parent-focused intervention suggestions were limited to changing parents' attitudes and helping them to become less concerned about the child's speech and essentially to ignore the observed disfluencies. As for child-focused intervention techniques, most descriptions made reference to so-called "syllabic timing" or "rhythmic speech", similar to metronome-paced speech. While it is encouraging to see that most authors recognize the fact that some form of active intervention is needed when stuttering is observed in children or adults, some more current information regarding the nature of that intervention may be appropriate. For instance, very few authors included suggestions on how parents can take a more active role in helping the child become more fluent by modifying their own speech behaviours. Similarly, the emphasis on "syllabic timing" (i.e., metronome speech) in direct treatment, does not reflect current approaches to stuttering therapy, especially with young children. Again, this is an area where speech-language pathologists have an important role in distributing this information to other health professionals.

It was somewhat surprising to see that of the 74 texts that included some information on stuttering only 25 (34%) suggested explicitly that children or adults should be referred to a speech-language pathologist for further assessment and/or intervention. Moreover, quite often such a referral was only recommended for older children if stuttering became chronic. The relatively low referral frequency may indicate that it is important for our profession to make a strong case for the need for early intervention in stuttering, and to be very explicit about the specialized assessment and intervention skills that speech-language professionals can offer, not only for children with beginning stuttering, but also for older children and adults.

In conclusion, while the information on stuttering available in the books surveyed in this study was relatively well balanced, some of the information was found to be in need of updating. While a lot of information on the nature and treatment of stuttering is available in specialized scientific journals and other speech-language pathology publications, such information is not always easily available to professionals in other health-related disciplines. It would seem that it is the responsibility of speech researchers and clinicians to be more proactive in making current information about the nature and treatment of stuttering, especially as it relates to early intervention, more readily available to the medical community. This can be done through the distribution of information booklets and pamphlets, review articles in medical journals, and contributions to edited textbooks.

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