

Let's Read



Promoting language and literacy to parents of children 4 months - 3½ years: pilot evaluation of a universal literacy promotion program

Feasibility Study Report

December 2004

An initiative of



Supported by



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Acknowledgments

We sincerely thank all the participating parents and Maternal & Child Health nurses of the City of Hume, City of Greater Shepparton, Shire of Yarra Ranges & City of Ballarat. We would also like to acknowledge the Telstra Foundation who funded the development of the program and the study.

Overview

This report outlines pilot findings from a universal early literacy promotion program aimed at promoting language and literacy practices to parents of infants aged between 4 months through to 3½ years in the primary health care setting in Melbourne, Australia.

The study was a survey design pilot study of early literacy promotion directed at parents and delivered by Maternal & Child Health (M&CH) nurses. Participants were 158 families of infants attending the 4-month, 12-month, 18-month or 3½ year scheduled visit. Outcome measures were 1) parental report of program's usefulness in promoting language and literacy activities, 2) parental report of program resources (guidance leaflet, age appropriate free book and booklist and DVD), 3) M&CH nurse report of program pilot and confidence in promoting language and literacy activities during scheduled consultation.

Results indicated that 97% of parents reported that they found the guidance materials easy to understand and 95% of parents found the book suggestion leaflet useful. Strategies to 1) encourage reading aloud and 2) engage young children in story time were rated as “quite” to “extremely” useful by 89% of parents. Training of M&CH nurses requires further refinement as nurses reported that they lacked confidence in delivering the program and indicated they needed more time to deliver the program. However, M&CH nurses unanimously indicated that they were very keen to deliver the program in the future.

Conclusions from the study imply that a brief universal literacy promotion program was useful and acceptable to mothers, and feasible to deliver in the primary health care setting by M&CH nurses. These findings add weight to a proposed longitudinal efficacy trial which will look at whether the program actually has a significant impact on school aged literacy outcomes.

Introduction

Reading failure disproportionately affects children from socially disadvantaged homes with poor literacy linked to decreased productivity, high unemployment, lower earnings, and high rates of both welfare dependency and teenage parenting which all contribute to the cycle of poverty. The information technology age has also placed a renewed emphasis on the value of literacy with increasing demands now placed on communication and service access via text based mediums.

An examination of socioeconomic status (SES) and literacy achievement has consistently found that SES differences are already present in preliteracy skills prior to school commencement (McCormick & Mason, 1986). Foorman, Fletcher & Francis (Foorman, 1998) indicate that less than 10% of children fail to read because of a bona fide reading disability. However, in Australia nearly 40% of low SES students in grade three failed to read at or above the age appropriate reading benchmark, while their more affluent peers performed significantly better with only 12% falling short of the mark (*Aspects of Literacy: Profiles and Perceptions, Australia, 1996, 1996*). The most recent statistics available on literacy indicated that almost half of Australians aged 15-74 (6.2 million people) have either 'very poor' (20%) or 'poor' (28%) prose literacy skills.

Of more concern is the disturbing and persistent trend indicating that prior to first grade, SES differences also exist in important developmental antecedents of reading such as letter knowledge and phonological processing skills (Bowey, 1995; Lonigan, 1998). An examination of SES and home literacy practices has consistently found that disadvantaged families report a significantly lower number of books in the family home (reduced opportunities for print exposure), fewer library visits and less time spent in shared reading/reading aloud and related language exposure activities (between child and caregiver).

International evidence highlighting the importance of the early years of life is now having a significant influence on both the State and Federal Government as they consider the best approach to improving outcomes for children. A review of two international early literacy promotion interventions which distribute free books, as part of an anticipatory guidance package advocating regular shared book reading between parents and their child(ren) during the first three years of life have found significant improvements in language development and home based literacy practices.

Reading aloud to young children has long been recognised as having a positive impact on language development. Specifically, the value of shared reading and print exposure has consistently been found to foster vocabulary development in children *prior to school* entry (Elley, 1989). Early experiences of this nature provide important stimulation to the developing brain, which is thought to foster later academic achievement and an increased likelihood of success in acquiring language and literacy (Halfon, 2001). Provision of free books or easier access to books is regarded as an important element in promoting "shared reading" especially for households who have limited age appropriate books or lacking in funds to purchase books. The provision of a book will be accompanied by 'anticipatory guidance', which is intended to guide parents in their efforts to establish a shared reading routine with their child in an effective and enjoyable way.

The manner in which anticipatory guidance is communicated to families is regarded as a crucial aspect of this intervention. Anticipatory guidance is knowledge or advice given before the onset of a problem, in the hope that it will prevent that problem. McFadden-Garden, Hazzard and Celano (1996) make the point that “parents perceive health care providers as experts in not only physical health but mental health and normal child development matters as well” (p. 2). Because of this perception health care professionals become one of the first and often the primary source of information for parents who have developed psychological concerns about their children or simply want guidance regarding reasonable expectations for general development. The giving of a book and modelling its use is perceived as a specifically medical intervention, reserved for the primary care clinician who would thus be speaking of books in the context of health, safety and development.

The most recent research evidence suggests that promoting specific literacy-related activities during the years prior to school entry can improve the development of emergent literacy skills for children in disadvantaged communities. Emergent literacy skills are an assortment of skills, which are recognised prerequisites to the more formal literacy skills of reading and writing. Based on these findings it was concluded that the Let’s Read program should include the following key components:

1. Written and audio-visual materials which promote language and literacy practices/activities between child and parent / care giver;
2. Provision of, or access to age appropriate (free) books;
3. Inclusion of professionals to convey guidance messages and model shared reading practices to parents;
4. Built upon the evidence-based emergent literacy framework, which promotes emergent literacy knowledge skills and environments,

The Let’s Read program has been designed to support and encourage parents / care givers in disadvantaged communities to undertake activities that have been shown to develop *emergent literacy* skills in young children (0-5 years). The Let’s Read pilot study also provided professional development training for M&CH nurses, outlining the benefits of reading aloud and describing modelling techniques to promote best practice. The Let’s Read program was also evaluated as an anticipatory guidance tool to assist M&CH nurses in promoting early language and literacy practices to parents of children aged 4-months to 3½ years.

We report on the design and pilot findings of a brief program of anticipatory guidance aiming to prevent development of language and literacy problems in a universal sample. We hypothesised that in a community sample of children aged 4-months to 3½ years such a program would be acceptable to and useful for parents and feasible to deliver within a universal primary care framework (M&CH centre).

Aims and Objectives

1. To trial the use of the Let's Read training package with M&CH nurses.
2. To trial the implementation of the Let's Read guidance package by M&CH nurses into existing professional practice.
3. To trial the use of the Home Literacy Environment scale.
4. To obtain feedback from M&CH nurses on the feasibility of delivering the Let's Read guidance material in a primary care setting.
5. To obtain feedback from parents on the utility and uptake of the Let's Read guidance materials (leaflet, booklist, free book & DVD).

This phase of the project took 4 months to implement and evaluate (May 2004 to August 2004). During the project, the Let's Read anticipatory guidance package was linked with communication processes of the identified key stage visits.

Methods

The pilot study was conducted in 4 economically and ethnically diverse local government areas in Victoria, Australia (City of Ballarat, Shire of Yarra Ranges, City of Hume, and the City of Greater Shepparton). As in the rest of Victoria, M&CH nurses provide a universally available service of developmental surveillance and advice, with key visits scheduled at 2 weeks, 2, 4, and 8 months, 1 year, 18 months, and 2, 3½ and 4-5 years. Uptake of prescribed surveillance visits is extremely high throughout the first year of life, with 84% of infants still attending the service at 8 months (personal communication, Department of Human Services).

Table 1. Participating Families by Local Government Area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ballarat	47	31.3	31.3	31.3
	Yarra Ranges	60	40.0	40.0	71.3
	Shepparton	28	18.7	18.7	90.0
	Hume	15	10.0	10.0	100.0
	Total	15	100.0	100.0	

Table 1 indicates large discrepancies in return rates between the 4 participating LGAs, with families from the Yarra Ranges making up 40% of the total sample. Shepparton and Hume had significantly fewer numbers of returned parent questionnaires which can tentatively be explained by the larger number of CALD families within these two LGAs. The reality is that many CALD families did not have sufficient literacy or support to complete and return the parent questionnaire.

Program timing and content

Our program's promotion strategies stemmed directly from the large body of empirical research reported in existing studies of parent directed intervention studies for established language and literacy promotion. We selected language and literacy activities most conclusively shown to predict increases in receptive and expressive vocabulary, phonological awareness and letter knowledge (dialogic reading, finger pointing, book choice and naming of sounds and names of letters). Content and design were overseen by a steering committee comprising paediatricians, psychologists, parenting experts, and M&CH nurses.

Optimal timing for delivery of a universal literacy promotion program to parents remains unknown. Halfon, Schulman & Hochstein (2001) acknowledge that brain development is the result of a complex interaction between nature and nurture and have presented a number of key findings that have "important implications for parenting, policy makers and efforts to support optimal brain development during early childhood" especially the finding that "a child's brain is changed by experience" (p. 2). Gottlieb, Wahlsten and Lickliter (1998) describe the brain as a "plastic self organising organ which develops and maintains nerve connections that are based on experiential demands and are not strictly predetermined". Learning is thus viewed as the process by which the brain responds adaptively to the environment in which a child is reared. Halfon et al (2001) describe the *use dependent* manner in which experiences that stimulate activity in particular regions of the brain facilitate the growth of connections in those regions. The implications of *use dependent* brain development surface in cases of extreme deprivation. However, knowledge about *use dependent* brain development also encourages the notion that "earlier is better" especially in relation to engaging a child in interactive and shared activities with their parent(s).

The period of time immediately following the birth of a child is often given to the task of rescheduling and changing important family and personal routines to accommodate the new arrival. Thus a period of time, to make room for new routines to be consolidated, was the rationale for delivering Let's Read beyond the Hospital stay. Coupled with existing knowledge about normal cognitive development milestones in relation to communication and language development and knowledge about ways to enhance language development, 4 months was regarded as a practical time at which to deliver guidance materials to parents about the benefits of reading aloud with children from early in life and guidance/modelling on how to effectively *read aloud* to and with children.

A second consideration in the timing and content of program materials relates to the exponential rate of cognitive, sensory and linguistic development during a child's first five years of life. In recognition of the differing stimulation required at differing development stages a *multi-injection* anticipatory guidance model was adopted with guidance materials being developed to target 4 specific ages. The specified ages (4-months, 12-months, 18-months and 3½ years) were chosen as they also align with scheduled M&CH visits.

At each of the 4 specified Let's Read visits parents received age appropriate guidance messages, an age appropriate booklist, a DVD reiterating the guidance messages and a free age appropriate book. Nurses were also encouraged to model a number of age appropriate *reading aloud* strategies for parents so as to provide parents with some practical ideas of how to read with their child.

Participants

M&CH Nurses

A convenience sample of 21 M&CH nurses from the 4 participating LGAs were recruited and trained in the delivery of the Let's Read program 6 weeks before the program was scheduled to begin. M&CH nurses attended a half-day training workshop, which provided a study briefing session that outlined the pilot's background, methodology and parent recruitment procedures. A psychologist then reviewed the content of the parent leaflets for all four age specific delivery sessions and discussed ways to discuss guidance materials with parents. A training manual facilitated program integrity.

Table 2. Let's Read Nurse Training Attendance Numbers

	Local Government Area (LGA)				TOTAL
	Hume	Shepparton	Ballarat	Yarra Ranges	
Participating M&CH Nurses	4	4	7	5	21
Non participating M&CH Nurses	2	2	2	1	7
Other Professionals	3	3	1	1	8
TOTAL	9	9	10	7	36

Parents

Participating M&CH nurses invited all parents of children aged 4-months, 12-months, 18-months and 3½ years, who attended their M&CH centre over a three month period to participate in the pilot study. A total of 340 families were invited to participate in the pilot study. Of this number a consecutive convenience sample of 316 families from the 4 participating LGAs agreed to participate and completed consent forms and contact details of interested parents were mailed to the research team who then sent out two questionnaires. Of the 316 recruited families, 150 completed questionnaires describing the usefulness of the written materials were returned and 158 completed DVD questionnaires were returned. The four participating LGAs were specifically targeted, as they reflected a broad cross section of community diversity including rural, regional, suburban, multi-ethnic and socioeconomic status.

Results

Parent characteristics

Table 3. Marital Status of Families

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single/never married	5	3.3	3.4	3.4
	Married	11	76.7	78.2	81.6
	Defacto	24	16.0	16.3	98.0
	Separated/divorced	3	2.0	2.0	100.0
	Total	14	98.0	100.0	
Missing	System	3	2.0		
Total		15	100.0		

Mean maternal age was 28 (range 21-52) years, 92% of mothers were married or in a defacto relationship and 25% of mothers had completed tertiary education. Fifty eight percent of mothers were not working and 3.3% of fathers were not in paid employment at the time of completing the parent questionnaire. Ninety two percent of parents were Australian born, and 95.3% spoke English as the first language at home.

Table 4. Number of Let's Read packs Distributed at Key Stage Visit

		Frequency	Percent	Valid Percent	Cumulative Percent
	4-month	50	31.6	32.1	32.1
	12-month	34	21.5	21.8	53.8
	18-month	39	24.7	25.0	78.8
	3½ year	33	20.9	21.2	100.0
	Total	156	98.7	100.0	
	Missing	2	1.3		
Total		158	100.0		

Fifty mothers received the 4-month Let's Read package (31.6%), 34 received the 12-month pack (21.5%), 39 received the 18-month pack (24.7%) and 33 received the 3½-year pack (20.9%). Final response rate was 50% and the majority of parents providing consent were mothers (95.3%).

Home Literacy Environment

The Home Literacy Environment (Griffin & Morrison, 1996) scale was used to assess the home literacy environment of participating families. However, the HLE scale was used in the current study to determine the usefulness of a single composite score, which can be generated by grouping the various item scores. It was also used to determine its feasibility within an Australian context as certain items may not translate well.

Results indicate that on average more children spend “one hour or less” watching TV on weekends than on weekdays and significantly more children spend 2 – 3 hours watching TV on weekdays than on weekends. A relatively large number of participating families indicated that they owned a library card with 65.3% indicating that they were members of a library.

Figure 1. Average hours per day that child watches television

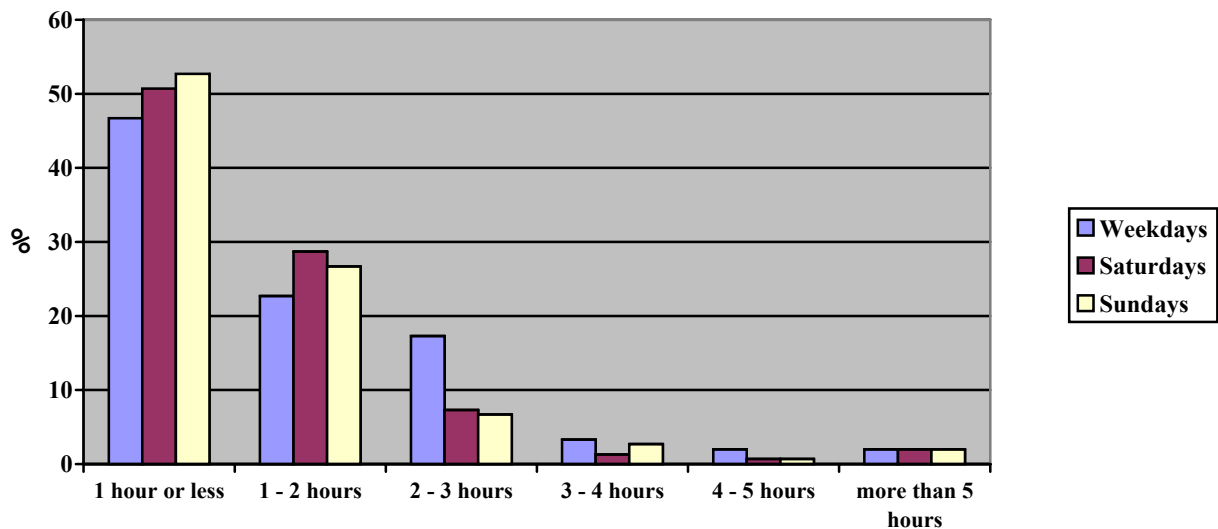
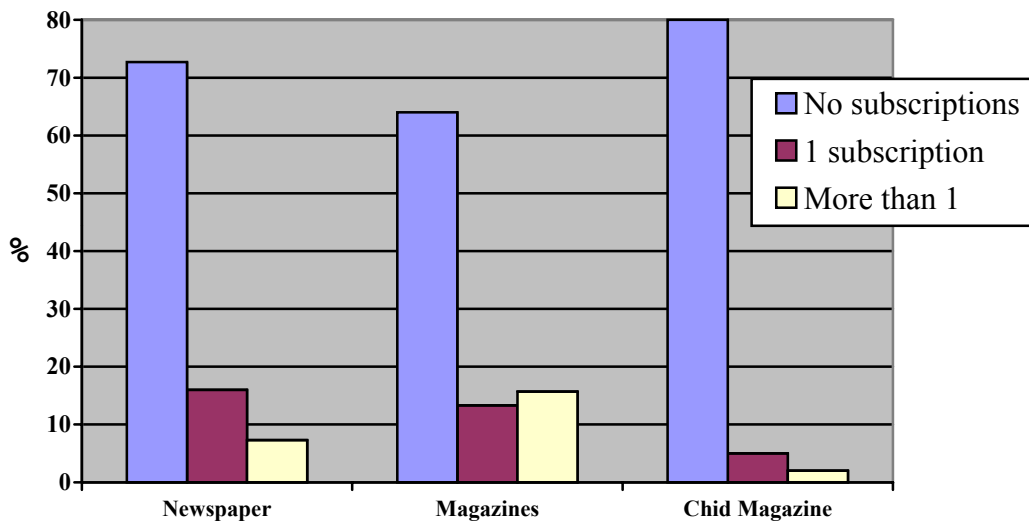
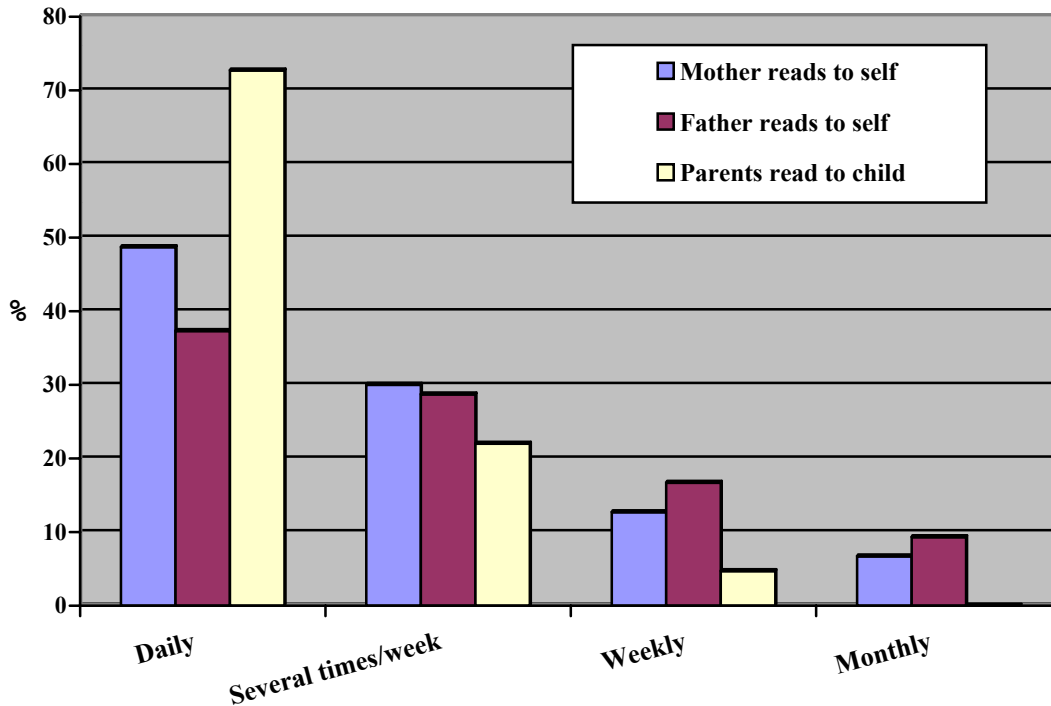


Figure 2. Home based literature subscriptions



A further indicator of home-based literacy environment is subscription information to printed media (magazines, newspapers). Subscription information indicated that 16% of families subscribed to a single newspaper and 7.3% subscribed to more than 1 newspaper while 13.3% of families subscribed to 1 magazine and 15.3% to more than one magazine. Subscription to children’s magazines indicated that only 5.3 % of families subscribed to such magazines and 2% subscribed to more than 1 child magazine. These results indicate that the majority of households that participated in the feasibility study did not subscribe to any printed media such as newspapers or magazines. However, it is noteworthy that more households subscribed to one or more magazine than a single magazine.

Figure 3. Home based Reading Practices



Reading activities in the family home were also assessed with 19.4% of mothers indicating that they read weekly or less, 30% reading several times a week and 48.7% reading daily. Response from fathers indicated that 26% read to themselves weekly or less, 28.7% reading several times a weekend 37.3% reading daily.

Table 5. Number of Children's books in the Family Home

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 10 books	21	14.0	14.6	14.6
	10-20 books	26	17.3	18.1	32.6
	20-30 books	27	18.0	18.8	51.4
	More than 30 books	70	46.7	48.6	100.0
	Total	144	96.0	100.0	
Missing	System	6	4.0		
Total		150	100.0		

Table 5 provides another example of the variation in home-based literacy materials, with parent estimates of the number of children's books in the home.

The results from using the HLE scale provided enough information for some investigative work to.

Parent evaluation of materials

Overall acceptability and usefulness of written materials

Primary outcomes included usefulness of the program's materials, reported by mothers on a study designed, 4-point scale, where 1= "not at all useful" and 5= "extremely useful". Mothers also reported whether the program's leaflets were helpful or unhelpful. Nurses completed questionnaires after their training to assess their self-perceived confidence in promoting and discussing language and literacy strategies with parents. Nurses also completed a questionnaire at the conclusion of the delivery of the intervention. Nurses also reported on the pilot of conducting the program within their current practice.

Comprehension of the Let's Read "What your child likes / What you can do" leaflet, was assessed by asking parents "how easy they found the materials to understand?" 97.3% of parents indicated that they found the written materials very easy / easy and 2.7% found the written materials difficult / very difficult to understand.

Comprehension of the "book suggestions" leaflets was also assessed using a 4-point Lickert Scale from "very easy / very difficult". Ninety five percent of parents found the "book suggestions" leaflets "very easy / easy" to understand while *missing* data accounted for the 4.7% of parents who did respond in the affirmative. No parent reported the leaflets "difficult / very difficult" to understand.

Ninety seven percent of parents reported that they read the book that they were given by the M&CH nurse and a further 55.3% of parents indicated that they have read the book more than once. In terms of preference for the book, 94% of children were reported to like the book by their parents.

In assessing the Let's Read "book suggestions" list, results indicated that 42% of families already own one or more books on the list beside the book they were given. It was also reported that since receiving the Let's Read "book suggestions" list, 8.7% of families have purchased at least one other book from the list.

Finally, delivery time by M&CH nurses was assessed by asking parents to estimate the time spent discussing Let's Read. The average length of time parents reported that M&CH nurse spent discussing reading with parents was approximately 5 minutes with a range from 1 minute to 10 minutes.

Overall Acceptability and Usefulness of DVD

Ninety three percent of parents found the DVD “very easy / easy” to use while 4% of parents found the DVD “difficult/very difficult” to use. Ninety five percent of parents also reported that they found the DVD to “reinforce / support” the messages that they received from the M&CH nurse about reading with their child. Parents also found the practical tips and supporting film clips about reading with your child useful with 95% reporting that they were “very practical / practical” while 2% found the clips to be “unhelpful / confusing”. No reasons were given for why the practical tips and film clips were unhelpful or confusing,

The “read aloud” books were viewed by 92.4% of families and 56.3% reported that they watched the “read aloud” books more than once. Over 80% of parents indicated that the “read aloud” books helped them to read other books with their children. The overall results from parents indicated the programs to be “useful”, “helpful” and “easy to use”.

Nurse Program Evaluation

The most surprising aspect of the study was the response of nurses after they had completed delivering their allocated Let's Read packs. On average nurses were given 20 packs to deliver over a 2-month period (June to August 2004). Of the 21 original nurses trained 11 completed nurses' questionnaires were returned. Nurses estimated that the average delivery time was approximately 11 minutes, which is almost double the estimate of parents.

In responding to questions about the level of confidence in delivering the program to parents, 5 nurses indicated that they were “not confident”. This number increased to 6 nurses, when rating their confidence in “modeling reading to families”, and 7 nurses indicated that they were not confident in discussing the benefits of reading aloud with families. These findings are of particular interest given that all but one nurse indicated that the Let's Read training had adequately prepared them for delivering the program.

Nine nurses indicated that the guidance pamphlet did initiate further discussion around the importance of early literacy. However, 3 nurses indicated that the program was inconvenient to implement into their current practice with time the key factor which nurses reported as the most limiting factor. This feedback clearly implies the need for a more structured delivery model acknowledging a set time frame (approx 5 minutes). While a minority of nurses requested more time in the process of delivering the program, nurses unanimously declared their interest in delivering Let's Read in the future with every nurse indicating that they would like to do so.

Half of the nurses indicated that they delivered the program to CALD parents, with the same number of nurses endorsing it as an appropriate program for these parents. Of course we are limited in addressing this answer any further due to the poor return rate from CALD families.

Nurses unanimously indicated that they thought the Let's Read materials were appropriate for other early childhood professionals to deliver on a one-on-one basis.

Summary

This is the first reported pilot of a universally available, public health parenting program designed to promote home based language and literacy activities in an effort to prevent language delays and school aged literacy difficulties.

The program was perceived as useful and relevant by a diverse range of parents, with over 90% reporting that they found the program materials (guidance leaflet, booklist & DVD) to be useful and easy to understand. Importantly we found no evidence of harm arising from the program, which could have manifested as negative assessment of the program by parents.

M&CH nurses reported that the program content was useful but many indicated that they lacked confidence in delivering various aspects of the program. A consistent comment that nurses fed back was that they required more time to deliver the program. This can be tentatively addressed within the training with a more structured model of delivering the program developed within strict time limits. The positive side to the nurse's responses was that they felt that the training adequately prepared them and they unanimously declared their interest in delivering the program in the future. These results suggest that the training be altered so that nurses are more confident before they begin delivering the program.

A further aspect to the study was to determine the usefulness of the Home Literacy Environment (HLE) scale with regard to the single composite score, which can be generated to categorise and rank the home literacy environment of households. Unfortunately, a number of items did not translate well into an Australian setting. Therefore, its usefulness remains limited to scores on individual items.

An important question to address in face-to-face anticipatory guidance programs is the impact on parent behaviours and specifically in relation to home based language and literacy practices. Unfortunately, questionnaires were posted after the delivery of the program thereby preventing a pre/post measure to determine whether parental practices changed as a result of receiving the program. This could easily be addressed in a larger trial assessing the program's effectiveness.

International evidence highlighting the importance of the early years of life is having a significant influence on both the State and Federal Government as they consider the best approach to improving outcomes for children. Given that literacy reception in economically disadvantaged areas are common, potentially serious, often go untreated, and once established can prove difficult to treat, an effective program that offers true primary prevention must be considered. Such a program needs to be feasible to deliver in a busy primary care setting (i.e. should be brief) and yet should be supported by additional time. Our program appears to be feasible to conduct in the primary care setting, while acknowledging nurses lack of confidence in this pilot study. The effectiveness of this approach now needs to be rigorously evaluated by a randomised controlled trial, with a sample large enough to detect change, and follow up to assess long-term effectiveness. Coupled with targeted secondary prevention and clinical tertiary services for established language and literacy problems, a universal public health prevention program has the potential to lessen the burden of literacy related problems for Australian children.

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