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Down Syndrome: the benefit of a home programme for children with Down Syndrome as measured on the Griffiths Development Scales

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Down Syndrome. *Child Rehabilitation in South Africa, June*, 33-35.

8. BOWEN J.R., GIBSON F.L., LESLIE G.I., ARNOLD J.D., MA P.J., STARTE D.R. (1996). Predictive value of Griffiths assessment in extremely low birth weight infants. *Journal of Pediatrics and Child Health, 32*, 25-30

9. BRICKER D., CARLSON L.S., SCHWARTZ R. (1981). A discussion of early intervention for infants with Down Syndrome. *Pediatrics, 67*, 45-46.

10. BRINKWORTH R. (1972). The unfinished child. Effects of early home teaching on the mongol infants. *In Mental Retardation and Behavioural Research.* Study Group No. 4. eds. A.D.B. Clark & A.M. Clarke, Churchill Livingstone, Edinburgh.

11. BRONFENBRENNER U. (1986). Ecology of the family as a context for human development. *Research Perspectives, Development Psychology, 22*, 723-742.

12. BROWN F.R., CHEIR M.K., ALYWARD G.H., HURSHELL H.H. (1990). Intellectual and adaptive functioning individuals with Down Syndrome in relation to age and environmental placement. *Pediatrics, 85*, 450-452.

13 CAREY J. (1993). Health supervision and anticipatory guidance for children genetic disorders (including specific recommendations for Trisomy 21, Trisomy 18 and Neurofibromatosis). *Pediatric Clinics of*

North America, 39, 25-36.

14. CARR J. (1993). Annotation : Long term outcome for people with Down Syndrome. *Journal of Child Psychology and Psychiatry, 35*, 425-439.

15. CARR J. (1970). Mental and motor development in young mongol children. *Mental Deficiency Research, 14*, 205-210.

16. CENTERVAL S.A., CENTERVAL W.R. (1960). A study of children with mongolism reared at home compared to those reared away from home. *Pediatrics, 25*,678-685.

17. CHASE-LANSDALE P.L. & GORDON R.A. (1996). Economic hardships and development of five and six-year olds: neighbourhood and regional perspectives. *Child Development, 67*, 3338-3367.

18. CHRISTIANSON A.L., (1996). Downs Syndrome in Sub-Saharan Africa. *Journal of Medical Genetics. 33*, 89-92.

19. CICHETTI D., BEIGHL Y. (1990). *Children with Down Syndrome: A Developmental Perspective.* Cambridge University Press: Cambridge.

20. CLARK R. (1977). What's the use of Imitation? *Journal of Child Language, 4*, 341-358.

21. COLLACOTT R.A. (1993). Down Syndrome. *Current Opinion in Psychiatry, 6*, 650-654.

22. COLLIN R.M. (1995). Nurses in early intervention. *Pediatric Nursing 21*, 529-531

23. CONNOLLY B.S., RUSSELL M.N. (1976). Interdisciplinary Early Intervention Programme. *Physicial Therapy, 56,* 155-158.

24. CONNOLLY B.S., MORGAN S.B., RUSSELL F.F., RICHARDSON B. (1980). Early Intervention with Down Syndrome children. *Physical Therapy, 60,* 1405-1408.

25. CONNOLLY B.H., MORGAN S & RUSSELL F.F. (1984), Evaluation of children with Downs Syndrome who participated in an early intervention programme. *Physical Therapy, 64,* 1515-1519.

26. CONNOLLY B.H., MORGAN S.B., RUSSELL F.F., FULLITON W.L. (1993). A longitudinal study of children with Down Syndrome Who Experienced Early Intervention Programming. *Physical Therapy, 73,* 170-181.

27. CRONK C.L. (1978). Growth of children with Down Syndrome - birth to age 3 years. *Pediatrics, 61,* 564-568.

28. CUNNINGHAM C.L. (1986). Down Syndrome - An Introduction for Parents. Souvenir Press: London.

29. CUNNINGHAM C.L., MORGAN P.A. MCGUCKEN R.B. (1984). Down Syndrome: Is dissatisfaction with disclosure of diagnosis inevitable? *Developmental Medicine and Child Neurology, 26,* 33-39.

30. CUNNINGHAM C., TURNER S., SLOPER P., KNUSSEN C. (1991). Is the appearance of children with Down Syndrome associated with their development and social functioning? *Developmental Medicine*

and Child Neurology, 33, 285-295.

31. DELPORT S.D., CHRISTIANSON A.L., van den BERG H.J.S., WOLMARANS L. & GERICKE G.S. (1995) Discriptive profile of congenital anomalies in black South African neonates born in an urban hospital. *South African Medical Journal, 85*, 15-20.

32. DODD B.J. (1972). Comparison of normal babbling patterns in Down Syndrome. *Journal of Mental Deficiency Research, 16*, 35-40.

33. DRASH P.W., RAVER S.A., MURRIN M.R., TUDOR R.M., (1989). Three procedures for increasing vocal responses to therapist prompt in infants and children with Down Syndrome. *American Journal of Mental Retardation, 94*, 64-73.

34. DYKENS E.M., HODAPP R.M., EVANS D.W. (1994). Profiles and development of adaptive behavior in children with Down Syndrome. *American Journal of Mental Retardation, 98*, 580-587.

35. EAVES L., NUTTAL J.C., KLONOFF H., DUNN H.G. (1970). Developmental and psychological test scans in children of low LBW. *Pediatrics, 45*, 9-19.

36. EDGAR D. (1995). Family impacts on the development of the child. *Australian and New Zealand Journal of Psychiatry, 29*, 14-22.

37. ELDELSTEIN J. (1981). A training programme for parents with a young Down Syndrome child (Unpublished data).

38. ELLIMAN A.M., BRYAN E.M., ELLIMAN A.D., PALMER P.,

DUBOWITZ L. (1985). Denver Developmental Screening Test and pre-term infants. *Archives of Disease in Childhood, 60,* 20-24.

39. EVANS A., GRAY A. (1992). *A pilot study to determine the agreement between the S.T.A.R.T. checklist and Griffiths' Mental Development Test in Down Syndrome children with a developmental age under 3 years of age*. (unpublished work). University of the Witwatersrand.

40. FISHLER K., KOCK R. (1991). Mental development in Down Syndrome mosaicism. *American Journal of Mental Retardation, 96,* 345-351.

41. FRYERS T. (1986). Survival in Down Syndrome. *Journal of Mental Deficiency Research, 30,* 101-110.

42. GATH A. (1990). Down Syndrome children and their families. *American Journal of Medical Genetics: Supplement, 7,* 314-318.

43. GATH A. (1992). Down Syndrome. *Current Opinion in Psychiatry, 5,* 692-694.

44. GLASCOL F.P., MARTIN E.D., HUMPHREY S. (1990). Comparative review of developmental screening tests. *Pediatrics, 86,* 541-554

45. GODUKA I.N., POOLE D.A. & AOKATI-PHENICE L. (1992). A comparative study of black South African children from three different contexts. *Child Development, 63,* 509-525.

46. GOODMAN M., ROTHBERG A.D., HOUSTON-MCMILLAN J.E., COOPER P.A., CARTWRIGHT J.D. AND VAN DER VELDE M.A. (1985). The effects of neuro-developmental therapy in normal and at risk survivors of neonatal intensive care. *The Lancet, 2,* 1327-1330.

47. GRAHAM G.G. (1972). Environmental factors affecting the growth of children. *American Journal of Clinical Nutrition, 25,* 1184-1188.

48. GRIEVE K.W., MPHELO M. (1993). The medical practitioners contribution to services for parents of severely handicapped children in the black community. *Pedmed, July-August,* 38-40.

49. GRIFFITHS R. (1970, 1984). *The Abilities of Young Children.* Association for Research in Infant and Child Development. London.

50. GRIFFITHS R. (1970,1984). *The Abilities of Babies.* Association for Research in Infant and Child Development. London.

51. GUSTAFSON J.M. (1973). Mongolism, parental desires and the right to life. *Perspectives in Biology and Medicine, 16,* 529-557.

52. HANSON M. (1978). A longitudinal, descriptive study on the behaviour of Downs Syndrome infants in an early intervention programme. Eugene, OR, Center on Human Development, University of Oregon.

53. HARKNESS S. (1992). Cross-sectional research in child development. A sample of the state of art. *Developmental Psychology, 28,* 622-625.

54. HARRIS S. (1981) Effects of neuro-development therapy in motor

performance of infants with Downs Syndrome. *Developmental Medicine and Child Neurology, 23*, 477-483.

55. HAYES A., BATSHAW L. (1993). Down Syndrome. *Paediatric Clinics of North America, 39*,523-533.

56. HELMES L. (1983). *The comparison of the Junior South African Individual Scales (JSAIS) and Griffiths Developmental Scale Scores of 3-5 Year Old Boys and Girls.* (Unpublished Work). University of Port Elizabeth.

57. HINDLEY C.B. (1960). The Griffiths scales of infant development: scores and prediction from 3 to 18 Months. *Journal of Child Psychology and Psychiatry, 1*, 99-112.

58. HINDLEY C.B. (1965). Stability and change in children up to 5 years: Group trends. *Journal of Child Pyschology & Psychiatry, 6*, 85-99

59. HODAPP R.M., LECKMAN F.J., DYKENS E.M., SPARROW S.S. (1992). K-ABC profiles in children with Fragile X, Down Syndrome and non-specific mental retardation. *American Journal of Mental Retardation, 97*, 39-46.

60. HOLT K.S. (1974). Screening for disease: Infancy and childhood. *Lancet Nov.*, 1057-1060.

61. HOLT K.S. (1979). Assessment of handicap in childhood. *Child: Care, Health and Development, 5*, 151-162.

62. JOHNSTON S. (1991). Down Syndrome - aspects for psychiatrists.

Current Opinions in Psychiatry, 4, 703-75.

63. KATZ B. (1993). Early intervention for mentally disabled children. *Critical Health, 45*, 62-64.

64. KATZ B., HARILAOU M., MASOGA B., PHIRI V., BARRET A. (1995). Disability and the family: Community based intervention. *Social Work Practice, 1*, 1995:15-23.

65. KOPP C., BAKER B.L., BROWN K.W. (1992). Social skills and their correlates: Pre-schoolers with developmental delays. *American Journal of Mental Retardation, 96*, 357-366.

66. KROMBERG J.G.R., CHRISTIANSON A. (1989). Down Syndrome in the black population. *South African Medical Journal, 76*, 292. (Letter).

67. KROMBERG J.G.R., BERNSTEIN R., JACOBSON M.J., ROSENDORFF J., JENKINS T. (1989). A decade of mid trimester aminiocentisis in Johannesburg. *South African Medical Journal, 76*, 344-349.

68. KWONG K.C., WONG V (1996). Neuro-developmental profile of Down Syndrome in Chinese children. *Journal of Pediatric and Child Health, 32*, 153-157.

69. LA VECK B., LA VECK D. (1977). Sex difference in development among young children with Down Syndrome. *Journal of Pediatrics, 91* , 767-769

70. LEJEUNE J. (1990). Pathogenesis of mental deficiency in Trisomy 21. *American Journal of Medical Genetics: Supplement, 7*, 20-30.

71. LUND J. (1988) Psychiatric aspects of Down Syndrome. *Acta Psychiatra Scandanavia, 78*, 369-374.

72. MELYN M.A., WHITE D.T. (1973). Mental and developmental milestones of non-institutionalised Down Syndrome children. *Pediatrics, 52*, 542-544.

73. MICHAELS E. (1990). Medical advances, positive attitudes brighten future of Down Syndrome children. *Canadian Medical Association Journal, 143*, 546-549.

74. MILLER J.F. (1988). The developmental asynchrony of language in chidren with Down Syndrome. The Psycho-biology of Down Syndrome. Cambridge MIT Press: Cambridge

75. MORGAN T.L. (1988). Focus groups and qualitative research. Sage Publications: Newbury Park, CA.

76. NESER P.S., MOLTENO C.D., KNIGHT G.J. (1987). Evaluation of pre-school children with Down's syndrome in Cape Town using the Griffiths scale of mental development. *Child Care, Health and Development, 15*, 217-225.

77. OLLER D.K., EILERS R.E. (1988). The role of audition in infant babbling. *Child Development, 59*, 441-449.

78. O'TOOLE B. (1989). Community based rehabilitation for disabled

children in rural Guyana. *World Health Forum, 10*, 230-231. (Letter).

79. PENROSE L.S., SMITH G.F. (1966). *Down's Anomaly*. J & A. Churchill: London.

80. PIPER M.C., PLESS I.B. (1980). Early intervention for infants with Down Syndrome: A controlled trial. *Pediatrics, 65*, 463-467.

81. QUINE L., PAHL J. (1987). First diagnosis of severe handicap; a study of parental reactions. *Developmental Medicine and Child Neurology, 295*, 232-242.

82. RAMEY C.T., BRYANT D.M., WASIK B.H. (1992). Infant Health and Development Programme for low birth weight, premature infants: programme elements, family participation, and child intelligence. *Pediatrics 3*, 454-464.

83. RAST M.M., HARRIS S. (1985). Motor control in infants with Down Syndrome. *Developmental Medicine and Child Neurology, 21*, 675-685.

84 REPORT from 9th World Congress of the International Association for the scientific study of mental deficiency. (1992). *SAIDA News*, 4-5.

85. RICHARDS C., REED J. (1991). Your baby has Down Syndrome. *Nursing Times, 87*, 60-61.

86. RICHTER L.M. & GRIEVE K.W. (1991). Home environment and cognitive development of black infants in impoverished South African families. *Infant Mental Health Journal, 12*,88-102.

87. RUDOLPH A., HOFFMAN J. (1982). *Pediatrics*, Appleton-Century-Croft: Connecticutt.

88. RUSKIN E.M., MUNDY P., KA[illegible]ARI C., SIGMAN M. (1994). Object mastery motivation of children with Down Syndrome. *American Journal of Mental Retardation, 98*, 499-509

89. RUSSEL S., KIRBY M.S., SWANSON M.E. (1993). Identifying at-risk children for early intervention services: Lessons from the Infant Health and Development Programme. *Journal of Pediatrics, 122*, 680-685

90. RYNDERS J.E., HORROBIN J.M. (1990). Always trainable? Never educable? Updating educational expectations concerning children with Down Syndrome. *American Journal of Mental Retardation, 95*, 77-83.

91. RYDE-BRANDT B. (1988). Mothers of primary school children with Down Syndrome. *Acta-Psychiatra Scandanavia, 78*, 102-108.

92. SEIFER R., GERE N., CLARK ., SOMERHOF A.J. (1991). Positive effects of interaction coaching in infants with developmental disabilities and their mothers. *American Journal of Mental Retardation, 96*, 1-11.

93. SHARAV T., COLLINS R., SHLOMO L. (1985). Effects of maternal education on prognosis of development in children with Down Syndrome. *Mental Retardation, 24*, 81-86.

94. SHONKOFF J.P., DWORKIN P.H., LEVITON A., LEVINE D. (1979). Primary care approaches to developmental disabilities. *Pediatrics, 64*, 506-513

95. SHONKOFF J. P., HAUSER-CRAM P. (1987). Early intervention for disabled infants and their families. A quantitative analysis. *Pediatrics, 80*, 650-56.

96. SHONKOFF J.P., HAUSER-CRAM P., KRAUSS W.M., UPSHUR C.C. (1992). Development of infants with disabilities and their families: Implication for theory and service delivery. *Monographs of Society for Research in Child Development, 57*, 1-167.

97. SHUMWAY-COOK A., WOOLCOTT M. (1985). Dynamic of postural control in the child with Down Syndrome. *Physical Therapy, 65*, 1315-1322.

98. SIMEONSSON R.J., COOPER D.H., SCHEINER H.P. (1982). A review and analysis of the effectiveness of early intervention programmes. *Pediatrics, 69*, 635-640.

99. SOLOKOV J.L. (1992). Linguistic imitation in children with Down Syndrome. *American Journal of Mental Retardation, 97*, 209-221.

100. SOLARSH B. (1986). The S.T.A.R.T. home-programme. *Physiotherapy, 44*, 117-120

101. STAFSTROM C.E., PATXOT O., GILMORE H.E., WISNIEWSKI K.E. (1991). Seizures in children with Down Syndrome: Etiology,

characteristics and outcome. *Developmental Medicine and Child Neurology, 33*, 191-200

102. STEFFENS M.I., OLLER K.D., LYNCH M., URBANO R.C. (1992). Vocal developments in infants with Down Syndrome and infants who are developing normally. *American Journal of Mental Retardation, 97*, 235-246

103. TANNOCK R., GIROLAMETTO L., SIEGEL L.S. (1992). Language intervention with children who have developmental delays: Effects of an interactive approach. *American Journal of Mental Retardation, 97*, 145-160

104. THAPAR A., IRVING I, MICHAEL J., MICHAEL C. (1994). The genetics of mental retardation. *British Journal of Psychiatry, 164*, 747-758

105. VENTER P.A., CHRISTIANSON L.A., HUMATO C.M., MAKHURA M.P. & GERICKE G.S. (1995). Congenital anomalies in rural black South African neonates. – A silent Epidemic? *South African Medical Journal, 85*, 11-15.

106. VILJOEN D.L. (1996). Prenatal diagnosis. *Continuing Medical Education, 14*, 13-19.

107. VYAS S. (1994). Screening for Down Syndrome. *British Medical Journal, 309*, 753-754.

108. WALD N.J., KENNARD A., DENSEM, J.W., CUCKLE H.S., CHARD T., BUTLER L. (1992). Antenatal maternal serum screening for Down Syndrome; results of a demonstration project. *British Medical Journal, 30*, 391-393.

109. WISNIEWSKI K.E. (1987) In Downs Syndrome children, post-natal retardation of head and brain growth (birth – 5 years of age) In Swan J.W., Messer A (eds.): " Disorders of the Developing nervous system: changing views in their origins, Diagnosis and treatment. Proceedings of the 1987 Albany Birth Deficiency Symposium SVIII." New York: Alan R. Liss, Inc. pp260 (abstract).

110. WISNIEWSKI K.E. (1990). Down Syndrome children often have brain with maturation delay, retardation of growth, and cortical dysgenesis. *American Journal of Medical Genetics: Supplement 7*, 274-281.

111. WOLRAICH M.L., SIPERSTEIN G.N., REED D. (1991). Doctors decision and prognostication for infant with Down Syndrome. *Developmental Medicine and Child Neurology, 33*, 336-342.

112. ZISK P.K. AND BIELER I. (1967). Speech and language problems in mongolism. A review of the literature. *Journal of Speech and Language Disorders, 32*, 228-241.

APPENDIX A

THE INTERVIEW SCHEDULE/PROTOCOL

NAME

AGE

SEX/GENDER

PREGNANCY

BIRTH HISTORY

NEONATAL HISTORY

MILESTONE - SITTING

WALKING

FIRST WORDS

SENTENCES

FEEDING

POTTY TRAINING

METHODS OF DIAGNOSIS

MEDICAL PROBLEMS

FAMILY HISTORY

PARENTAL MARITAL STATUS

MATERNAL AGE OF CONCEPTION

MARTENAL HIGHEST EDUCATION

MARTENAL OCCUPATION

PARTENAL AGE OF CONCEPTION

PARTENAL HIGHEST EDUCATION

PARTENAL OCCUPATION

NUMBER OF SIBLINGS

TOTAL NO. OF ROOMS

TOTAL NO. OF OCCUPANTS

CAREGIVER AGE

CAREGIVER HIGHEST EDUCATION

CAREGIVER OCCUPATION

MEDICAL PROBLEMS

STATE GRANT

OTHER SUPPORT GROUPS

SCHOOL

START PROGRAMME

TOTAL DURATION

NO. OF SESSIONS

DUPATION OF SESSION

OTHER INFORMATION

MENTAL AGE (MONTHS)

FAMILY POSITION

CAREGIVER

SICKNESS IN INFANCY

MOTHERS ILLNESS IN PREGNANCY

FUTURE PREGNANCY

FAMILY SUPPORT

ATTITUDE TO START PROGRAMME

FAMILY HISTORY OF DOWN SYNDROME

DOCTORS EXPLANATION

THERAPIST EXPLANATION

PRESENT MEDICAL COMPLAINTS

APPENDIX B

THE S.T.A.R.T.

In its present form, the programme identifies six areas seen as the basis for the development of the child. These are briefly discussed below:

1. Social and emotional development

Play is an integral part of social and emotional development. Two types of play are recognized:

1.1 **Group play** which embodies the following:

a) The development of an awareness of the environment including other individuals.

b) The development of awareness of oneself.

c) The development of awareness of one's ability to manipulate the environment as in:

i) Distinctive play

ii) Incidental play

iii) Explorative and experimental play

iv) Constructive play

v) Fantasy play

1.2 **Group interaction,** encompassing

i) Solitary - child prefers to play all alone

ii) Observer - child has no part in playing

iii) Parallel - child will play alongside a group

iv) Co-operation

v) Interaction

2. Activities of Daily Living

The area is seen as vital in promoting the greatest degree of independant function.

The areas of focus are:

a) Feeding and drinking

b) Manners - Table manners and consideration of others.

c) Toiletting - Including handwashing.

d) Dressing - Body and shoes.

3. Gross Motor Development

Development in this area is influenced by individual handicap.

Training is done on the following:

a) Positioning

b) Balance and locomotion

c) Co-ordination: Eye - foot

Eye - hand

Hand - foot

d) Spatial awareness

4. Fine motor Development

The aim here is to encourage the child to develop as high a level of co-ordinative function as possible. Attention is given to:

a) Free movements

b) Reaching

c) Grasp and release

d) Manipulation skills

e) Precision placement

f) Bilateral co-ordination

5. Cognitive Development

In this area the focus is on:

a) **Sensory Stimulation**, namely: Auditory, visual, olfactory, kinaesthetic and tactile.

b) **Body concept**, body image and body awareness.

c) **Spatial Awareness**: position in space and spatial relations.

d) **Colour Concept**: Matching, identifying and naming.

e) **Shape Concept**: Matching, and naming.

f) **Size Concept**

g) **Number Concept**

6. Communication

Attention is given to verbal and non-verbal methods of communication such as:

a) **Receptive Language**: responding appropriately to communication and people.

b) **Expressive Language,**

i) Initiation

ii) Expressing

c) **Using Language**

d) **Verbal interaction**

Information extract from Sunshine Centre document - Profile of the Sunshine Association - Sunshine Centre Procedure

4.4.1.4 The Training Programme

Teacher councillors are training to take S.T.A.R.T. to homes of families having handicapped children. The present approach is that of community involvement.

4.4.1.5 The Service Structure

The service operates both as centre base and home base. It adopts a comprehensive medical and multi disciplinary approach by making are of other services available in the community. The service structure comprises:

Management Control

Directors

Supervisors **Consultants**

Teacher Consultant

Home-based sessions were also given to parents. Parents were given instructions and demonstration to apply to their children on a daily basis. The staff consisted of a trained speech therapist and a speech therapist.

APPENDIX C

DEVELOPMENTAL MILESTONES OF CHILDREN WITH DOWN SYNDROME

1 *GROSS MOTOR ACTIVITIES*

ACTIVITY	Children with Down's syndrome		'Normal' children	
	Average Age	Range	Average Age	Range
Holds head steady and balanced	5m	3m to 9m	3m	1m to 4m
Rolls over	8m	4m to 12m	5m	2m to 10m
Sits without support for one minute or more	9m	6m to 16m	7m	5m to 9m
Pulls to stand using furniture	15m	8m to 26m	8m	7m to 12m
Walks with support	16m	6m to 30m	10m	7m to 12m
Stands alone	18m	12m to 38m	11m	9m to 16m
Walks alone	23m	13m to 48m	12m	9m to 17m
Walks up stairs with help	30m	20m to 48m	17m	12m to 24m
Walks down stairs with help	36m	24m to 60m+	17m	13m to 24m
Runs	around 4 years		—	
Jumps on the spot	4 to 5 years		—	

2 *PERSONAL/SOCIAL/SELF HELP ACTIVITIES*

Smiles when touched and talked to	2m	1½m to 4m	1m	1m to 2m
Smiles spontaneously	3m	2m to 6m	2m	1½m to 5m
Recognises mother/father	3½m	3m to 6m	2m	1m to 5m
Takes solids well	8m	5m to 18m	7m	4m to 12m
Feeds self with biscuit	10m	6m to 14m	5m	4m to 10m
Plays pat-a-cake, peep-bo games	11m	9m to 16m	8m	5m to 13m
Drinks from cup	20m	12m to 30m	12m	9m to 17m
Uses spoon or fork	20m	12m to 36m	13m	8m to 20m
Undresses	38m	24m to 60m+	30m	20m to 40m
Feeds self fully	30m	20m to 48m	24m	18m to 36m
Urine control during day	36m	18m to 50m+	24m	14m to 36m
Plays social/interacting games	3½ to 4½ years		—	—
Bowel control	36m	20m to 60m+	24m	16m to 48m
Dresses self partially (not buttons/laces)	4 to 5 years			
Uses toilet or potty without help (often too small to get up onto a toilet, unless a special step is available)	4 to 5 years			

3 FINE MOTOR AND ADAPTIVE ACTIVITIES

ACTIVITY	Children with Down's syndrome		'Normal' children	
	Average Age	Range	Average Age	Range
Follows objects with eyes, in circle	3m	1½m to 6m	1½m	1m to 3m
Grasps dangling ring	6m	4m to 11m	4m	2m to 6m
Passes objects from hand to hand	8m	6m to 12m	5½m	4m to 8m
Pulls string to attain toy	11½m	7m to 17m	7m	5m to 10m
Finds objects hidden under cloth	13m	9m to 21m	8m	6m to 12m
Puts 3 or more objects into cup or box	19m	12m to 34m	12m	9m to 18m
Builds a tower of two 1" cubes	20m	14m to 32m	14m	10m to 19m
Completes a simple three shape jigsaw	33m	20m to 48m	22m	16m to 30m+
Copies a circle	48m	36m to 60m+	30m	24m to 40m
Matching shapes/colours	4 to 5 years			
Plays games with simple rules	4 to 5 years			

4 COMMUNICATION ACTIVITIES

Reacts to sounds	1m	½m to 1½m		0 to 1m
Turns to sound of voice	7m	4m to 8m	4m	2m to 6m
Say da-da, ma-ma	11m	7m to 18m	8m	5m to 14m
Responds to familiar words	13m	10m to 18m	8m	5m to 14m
Responds to simple verbal instructions	16m	12m to 24m	10m	6m to 14m
Jabbers expressively	18m	12m to 30m	12m	9m to 18m
Says first word(s)	18m	13m to 36m	14m	10m to 23m
Shows needs by gestures	22m	14m to 30m	14½m	11m to 19m
A few two word sentences	30m	18m to 60m+		
Uses words spontaneously and to communicate	1½ to 6 years			

(Adapted from Cunningham C. **Down Syndrome: An Introduction to Parents.** Page 205- 206)

APPENDIX D

GRIFFITHS DEVELOPMENT SCALES

The tests examine the developmental profiles of each individual child tested as shown in the following figure:

160	A	B	C	D	E	F	G
150							
130							
120							
110							
100							
90							
80							
70							
60							
50							
40							
30							
20							
10							

The Griffiths tests allow for assessment in fives (0 - 2 yrs) and six (3 - 8 yrs) areas namely:

Locomotor Development (Subscale A)

This subscale offers opportunity to observe physical development in young children. It includes ability to run, trot, kick and throw the ball.

Personal - Social (Subscale B)

This scale allows for the assessment of personal and social development by making use of such item as the ability to use spoon, cup, dress and activity body parts.

Hearing and Speech (Subscale C)

This is the most intellectual of the scales and allows for the opportunity to study growth and development of language. Its items include ability to use words, appropriately, identify and name toys, to tell and listen to stories, and show in story books.

Eye-hand Co-ordination (Subscale D)

This subscale relates to handwork and visual ability of the child. The relevant items here include building tower with blocks, drawing and manipulation of toys, drawing (sketching) and threading beads.

Performance (Subscale - E)

This subscale is largely a scale of performance, enabling the examiners to observe and measure the skill of manipulation, speed of working and precession. The items include formboards, removal and placements of lids.

Practical Reasoning (Subscale - F)

This subscale concentrates on recording the earliest indication of arithmetic, comprehension and the realization of the simplest practical problems. It indicates the child's ability to benefit from formal schooling.

APPENDIX E

1. LETTER TO PARENTS/CAREGIVERS

Dear .....

You are kindly requested to bring your child .... to Speech Therapy Department at Baragwanath Hospital on the ...., as there will be a discussion regarding assessment of your chi' l's progress.

Your co-operation in this regard will be highly appreciated.

Yours sincerely

DR I Skenjana

MBChB DCH

Please note: 1. All bus, train and taxi fares will be refunded.

2. Please do not take out your hospital records.

3. Kindly bring this letter with you and show it at the gate on demand.

Thanks.

APPENDIX F

2. CONSENT FORM FOR PARENTS/CAREGIVERS

EVALUATION OF THE BENEFITS OF THE START PROGRAMME ON CHILDREN WITH DOWN'S SYNDROME BETWEEN AGES OF 6 MONTHS TO SIX YEARS

Investigator: I.N.B. Skenjana MBChB DCH

Parent's Name:.. ....

Parents of: .....

I agree to allow my child to participate in study involving Down Syndrome children at Baragwanath Hospital, Sunshine Centre and Transvaal Memorial Institute. I understand that the study is intended to evaluate whether the START home programme is of benefit in the development of Children with Down Syndrome between the age of 6 months and 6 years. I further understand that there are no foreseeable risks or discomforts involved in this study.

I also understand that my participation in the study will require that a series of ability tests will be administered to my child. These tests will be performed in a single visit of approximately 2 hours. It is agreed that all information concerning participation in this research will be kept confidential. I understand that I may withdraw from the study at any time without penalty, by contacting Dr I Skenjana (Tel: 725-4130 Ext 672). I understand that my signature means I have read this form, understand the procedure to be followed and voluntarily agree to participate in the project entitled:-

The Benefits of a Home Program for children with Down's Syndrome as measured by Griffiths Development Scale.

SIGNATURE:.....

DATE:.....

PARENT OR GUARDIAN

INVESTIGATOR (WITNESS):.....

APPENDIX G

CODING SYSTEM

CODE : Experiment (101 - 121) Controls (201 - 221)

Diagnosis

AGE : Months

SEX :
- Unknown - 0
- Male - 1
- Female - 2

PREGNANCY
- Unknown - 0
- Normal - 1
- Abnormal - 2

BIRTH HISTORY:
- Unkown - 0
- Normal - 1
- Abnormal - 2

NEONATAL HISTORY:
- Unknown - 0
- Normal - 1
- Abnormal - 2

MILESTONES:
- Age at in months - sitting -
- walking -
- first words -
- sentence -
- feeding -
- potty training -

MEDICAL PROBLEMS: - Unknown - 0

- Yes - 1

- No - 2

METHOD OF DIAGNOSIS: - Unknown - 0

- Clinical - 1

- Clinical & Biochemical - 2

FAMILY HISTORY:

1. PARENTS MARRIED - Unknown - 0

- Yes - 1

- No - 2

(a) Mothers age at conception - in years

Mothers highest education - Unknown - 0

- Std 1 - Std 5 - 1

- Std 6 - Std 8 - 2

- Std 9 - Std 10 - 3

- Tertiary - 4

- College/University - 5

Mothers Occupation - Student - 0

- Never Worked - 1

- Not Working - 2

- Unskilled Labourer - 3

- Skilled Labour - 4

- Semi Professional - 5

- Professional - 6

(b) Fathers Age - in years

Fathers Highest education

- Unknown - 0
- Std 1 - 5 - 1
- Std 6 - 8 - 2
- Std 9 - 10 - 3
- Tertiary - 4
- College/University - 5

Fathers Occupation

- Student - 0
- Never Worked - 1
- Not Working - 2
- Unskilled Labourer - 3
- Skilled Labourer - 4
- Semi-professional - 5
- Professional - 6

Siblings = No. of siblings

Medical Problems - None - 0

- Yes - 2

Size of House - no of rooms -

Total number of people in the house -

(2) <u>CAREGIVER</u> (OTHER THAN PARENTS)

Caregivers age in years

Caregivers highest education

Nil - 0

Std 1 - 5 - 1

Std 6 - 8 - 2

Std 9 -10 - 3

Tertiary - 4

College/University - 5

Caregiver (Other than Parent)

Caregivers Occupation	Student/child - 0 Never Worked - 1 Not Working - 2 Unskilled Labour - 3 Skilled Labour - 4 Semi professional - 5 Professional - 6
Medical Problems	Nil - 0 Yes - 1 No - 2
State Grant or other Financial Assistance	Not Known - 0 Yes - 1 No - 2
Other Support: - Advisory - Physical - Financial	Not Known - 0 Yes - 1 No - 2
School	Unknown - 0 Yes - 1 No - 2
S.T.A.R.T. Home Programme	Unknown - 0 Yes - 1 No - 2
S.T.A.R.T. for how long in months	
Time per session	15 mins - 0 15 -30 mins - 1 30 - 60 mins - 2
No. of sessions in a week	- 0 - 1 - 2 - 3 - 4 - 5
Griffiths Developmental Scales	A = 0 B = 1 C = 2 D = 3 E = 4 F = 5 D = Q = 6
Medical examination - illnesses	Unknown - 0 Yes - 1 No - 2

Author Skenjana N
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