

Psychosocial Factors Affecting Language Development Among Mild Mentally Retarded Children

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Date received: 4/12/2008

Date accepted: 5/7/2009

Background: Psychosocial aspects of mentally retarded children may have tremendous effect on their language development. This prospective study was conducted in order to evaluate and correlate the role of psychosocial support and care of the mentally retarded children family and environment on their children linguistic abilities.

Subjects & Methods: Ninety children (39 females, 51 males) with mean age 42.6 months had Delayed Language Development (DLD) due to mild mental sub-normality (mean IQ=61.5). They were subjected to the protocol of assessment of DLD including: IQ assessment, language test and semi structured psychosocial sheet built by the authors to fulfill variant

psychosocial factors affecting language development.

Results: Statistically significant correlation between the results of language tests parameters of mild mentally retarded children and socio-economic standards of their families as well as the level of education of their fathers and mothers.

Conclusion: There is growing evidence that families play an important role helping their children to improve their language skills. Improving parenting skills through training can substantially have a profound influence on a child's developing attitudes, values, and beliefs, and should be considered when adopting a developmental approach.

Keywords: Delayed Language Development, psychosocial support.

Abbreviations:

DLD: Delayed Language Development

SES: socioeconomic standard

AAMR: The American Association on Mental Retardation

MR: Mental Retardation

IQ: Intelligence Quant

DSM-IV-TR: Diagnostic and Statistical Manual of Mental Disorders, 4th edition, text revised.

Egypt. J. Psychiatry, May 2010; 31(2): 25-32

INTRODUCTION

Language acquisition does not take place in a vacuum. As children acquire language, they acquire a sign system which bears important relationships to both cognitive and social aspects of their life. Psychosocial aspects of language acquisition are mainly concerned about how language, thought and social interaction interrelate in the child's development (Vygotskaya and Lifanova, 1996 and 1999).

Psychosocial factors exert their influence within a family structure in which parents mediate their children's behaviors for their adaptation to the wider social system. Examples of psychosocial factors are belief and value systems, attitudes, socialization goals and practices for modeling behaviors, communication styles, language use at home, interpersonal relations, experiences, problem-solving and stress coping strategies (Clegg, and Ginsborg, 2006). This contemporary view of the interaction between internal factors (i.e., representing biological and psychological domains) and external factors (i.e., representing socioeconomic standard (SES) and psychosocial domains) in language acquisition among mild mentally retarded children. These two principles are very useful for explaining

the dynamic interaction among SES, psychosocial, psychological, and biological factors influencing language development. So the particular external environment in which the child lives (e.g., home and family setting, school culture) will provide a positive or negative degree of stimulation for the child's genetic potential (Sampson and Laub, 1995 and Walker, et al. 1989).

The American Association on Mental Retardation (AAMR), recently, defines Mental Retardation (MR) as "A disability characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills. This disability originates that before age the age of eighteen (Edwards and Luckasson, 2002).

In our clinical work, it was noticed some children with Delayed Language Development (DLD) due to mental subnormality showed different language abilities in spite of sharing the same chronological age as well as mental age. In addition, the degree of their familial acceptance, understanding and dealing with those children problems were also different.

So mental disorders must be considered within the context of the family and peers, school and community. Taking the psychosocial environment into consideration is essential to understanding mental disorders in children and adolescents, as it is in adults (Kaplan, et al. 1994).

The aim of this work was to evaluate and correlate the role of psychosocial support and care of the mentally retarded children family and environment on their linguistic abilities.

MATERIAL AND METHODS

This study was conducted in the Outpatient Unit of Psychiatric Department as well as Unit of Phoniatics, E.N.T. Department, at Mansoura University Hospital. It had begun in January 2008 through November 2008. All the subjects gave signed informed consent after the purpose of the study and the protocol had been explained to them, and before any intervention was performed.

Subjects:

90 children (39 males and 51 females) with delayed language development (DLD) and mild MR met DSM-IV-TR criteria (APA, 2004), mean IQ (61.5) with their ages ranged from 2-5 years (Mean age 42.6 month) were involved. The study excluded hearing impaired children, children with genetic syndromes, and cases with moderate and severe mental retardation.

Research design:

All children were subjected to the protocol for assessment of delayed language development which passed through the following three levels of assessment:

1- Elementary diagnostic procedures: that include; parents interview, general examination, vocal tract examination, neurological examination, and assessment of the motor development and postural reflexes.

2- Clinical diagnostic aids: that include:

- *Evaluation of the various aptitudes:* was done by testing cognitive age (Mental age) using Stanford Bient intelligence scale (Thorndike, et al. 1986), Social age using Vineland Social Maturity scale (VSMS) (Doll, 1965).
- *Audiological evaluation:* was done to ensure normal hearing.
- *Language evaluation:* using the Arabic language test (Kotby, et al. 1995) and articulation test (Abou-El-Saad, et al. 2009). The semantic age, receptive

language age, expressive language age, pragmatic age, prosodic age and Then the total Language Age (LA) was calculated from the total calculation of the previous items, for every child.

- *Semi structured psychosocial sheet (Consisted of 8 items) applied to the parents:* It was constructed by the authors to fulfill variant psychosocial factors affecting language development in the three surrounding levels of communication (Familial level (First 6 items), nursery school level (Item 7) and surrounding social environmental level (Item 8). **The sheet was including the following:**
 1. **Parent's understanding of their child problem:** not understanding, understanding and refusing to support their child, understanding and passively support their child or understanding and supporting their child.
 2. **Relation between the child and his parents:** warmth, hatred, dependent, independent, hostility, ambivalence, or overprotection.
 3. **Relation between the child and his brothers:** warmth, hatred or joules.
 4. **Socio-economic standard:** The individuals were classified into social class I, II, III and IV according to an Egyptian classification of Fahmy and El-Sherbini, (1983), which was based on the following parameters: Education and work of the father, education and work of the mother, income, number of individuals per room, and presence of water and electricity and WC in their homes. The scores of individual parameter to the total score: Class I (High social standard= 25-30), Class II (Middle social standard= 20-25), Class III (Low social standard= 15-20), Class IV (Very low social standard<15).
 5. **Presence of probably ideal person:** present or absent.
 6. **Methods used for correcting behavior:** nothing, beating, insulting, convincing, praising, bribing, severe punishment or others.
 7. **Scholastic history:**
 - School attendance; either attendant or not attendant.
 - Causes of discontinuation of school; either truancy, school backwardness, disturbed relation or more than one problem.
 - School performance; either good or bad.
 - School behavior; either normal, aggressive, submissive or isolated.
 - Adaptation to school teachers; either well, just or not.

8. Relation between the child and his social environment:

- Social attendance to social events; either attendant or not attendant.
- Social performance; either good or bad.
- Social behavior; either normal, aggressive or submissive.
- Attitude towards his same age colleagues; either good, aggressive, submissive or isolated.

3- Additional instrumental measures: EMG and CT or MRI if indicated.

Statistical analysis: The collected data were analyzed by computer using SPSS 14.0 for Windows Evaluation Version software. Descriptive statistics and chi-square test were used for categorical data. Student-t test and Pearson correlation coefficient were used for quantitative analysis. The level of significance was chosen at (P<0.05).

RESULTS

Data reduction followed two main lines:

1. Descriptive analysis: allowed examining the profile of the results of the collecting patients' data (Tables 1, 2, 3 and 4).

Table 1: Clinical characteristics of the study children:

Sex:	No.	%	df	X ²
• Male	51	56.7	1	1.6
• Female	39	43.3		
Clinical Data		Mean	± SD	
Socioeconomic standard#		17.99	5.37	
Chronological age		42.62	12.53	
IQ		61.5	6.16	
Mental age in months		25.58	7.19	
Social age in months		35.09	10.26	
Language age in months		20.76	8.8	
Socioeconomic standard#		17.99	5.37	

Total score of Fahmy and El-Sherbini Socioeconomic scale (1983)

Table 2: representing the items of Semi structured psychosocial factors within the familial level (First sex items of the sheet):

Characteristics	Total No. (90)		
	No	%	X ²
1- Parent's understanding of their child problem:			
• Not understanding	39	43.3	
• Understanding and refusing to support their child	21	23.3	
• Understanding and passively support their child	1	01.1	34.6***
• Understanding and supporting their child	29	32.2	
2- Relation between the child and his parents:			
• Warmth	41	45.6	
• Hatred	1	01.1	
• Dependent	17	18.9	
• Independent	10	11.1	92.3***
• Hostility	1	01.1	
• Ambivalence	16	17.8	
• Overprotection	4	4.4	
3- Relation between the child and his brothers:			
• Warmth	27	30.0	
• Hatred	48	53.3	9.3*
• Jealousy	15	16.7	
4- Social Class of the family:			
• Class I	8	8.9	
• Class II	32	35.6	
• Class III	23	25.5	10.0**
• Class IV	27	30.0	
5- Presence of probably ideal person:			
• Present	10	11.1	
• Absent	80	88.9	54.4***
6- Methods used for correcting behavior:			
• Nothing	20	22.2	
• Beating	31	34.4	
• Insulting	3	03.3	
• Convincing	4	04.4	72.4***
• Praising	1	01.1	
• Bribing	5	05.6	
• Severe punishment	26	28.9	

*= X² is significant at 0.05 level.

**= X² is significant at 0.01 level.

***= X² is significant at 0.001 level.

Table 3: Scholastic history of the study children:

Scholastic history	No	%	X ²
School attendance:			
• Attendant	37	41.1	26.5***
• Not attendant	53	58.9	
Causes of discontinuation of school:			
• Truancy	73	81.1	154.4***
• School backwardness	3	03.3	
• Disturbed relation	10	11.1	
• More than one problem	4	04.4	
School performance:			
• Good	32	35.5	38.9***
• Bad	58	64.5	
School behavior:			
• Normal	9	10.0	56.6***
• Aggressive	12	13.3	
• Submissive	16	17.8	
• Isolated	53	58.9	
Adaptation to school teachers:			
• Well	10	11.1	56.6***
• Just	17	18.9	
• Not	63	70.0	

*= X² is significant at 0.05 level.
 ***= X² is significant at 0.001 level.

Table 4: Social history of the study children:

Social activities	No	%	X ²
Social attendance to social events:			
• Attendant	3	03.3	78.4***
• Not attendant	87	96.7	
Social performance:			
• Good	37	41.1	2.8
• Bad	53	58.9	
Social behavior:			
• Normal	26	28.9	9.3*
• Aggressive	27	30.0	
• Submissive	37	41.1	
Attitude towards his same age colleagues:			
• Good	20	22.2	10.5*
• Good	21	23.3	
• Submissive	35	38.9	
• Isolated	14	15.6	

***= X² is significant at 0.001 level.

2. **Correlative analysis:** that allowed correlation between the clinical finding and the items of the semi-structured psychosocial sheet (Tables 5, 6, 7 and 8).

Table 5: showed correlative study between socioeconomic standards and developmental profile of study children:

Developmental profile	Socioeconomic standard (r)
- Mental age in months	0.794**
- Social age in months	0.713**
- Language age in months	0.863**

r= Pearson correlation coefficient.
 **= Correlation is significant at 0.01 level (2-tailed).

Table 6: Correlative study between socioeconomic standards and the results of language tests of study children:

Language tests	Socioeconomic standard (r)
- Receptive language	0.855**
- Expressive Language	0.855**
- Semantics	0.864**
- Pragmatics	0.840**
- Prosody	0.852**

r= Pearson correlation coefficient.
 **= Correlation is significant at 0.01 level (2-tailed).

Table 7: Correlative study between scholastic degree of the father® and the results of language tests of study children:

Language tests	scholastic degree of the father (r)
- Receptive language	0.772**
- Expressive Language	0.772**
- Semantics	0.773**
- Pragmatics	0.754**
- Prosody	0.769**

® Measured by Fahmy and El-Sherbini Socioeconomic scale (1983).
 r= Pearson correlation coefficient.
 **= Correlation is significant at 0.01 level (2-tailed).

Table 8: Correlative study between scholastic degree of the mother® and the results of language tests of study children:

Language tests	scholastic degree of the mother (r)
- Receptive language	0.822**
- Expressive Language	0.822**
- Semantics	0.839**
- Pragmatics	0.815**
- Prosody	0.819**

® Measured by Fahmy and El-Sherbini social scale (1983).
 r= Pearson correlation coefficient.
 **= Correlation is significant at 0.01 level (2-tailed).

DISCUSSION

This contemporary research study is presenting the interaction between both internal child's characteristics and external factors present in the school and family environments in language acquisition among mild

mentally retarded children. The internal child's characteristics referred to biological, physical, psychological-cognitive, social, emotional factors, while the external factors were related to socioeconomic and psychosocial characteristics such as the parents' educational level and occupation, and the family structure such as the language used at home. In this research mild mental retarded group was chosen only to work with, as cases with moderate and severe mental retardation were of poor results to be palpated as regard language spectrum. The chosen group has had an IQ (61.5 ± 6.16) with mental age; social age and language age (25.58 ± 7.19 , 35.09 ± 10.26 , 20.76 ± 8.8 in months respectively) and had total language ages (20.76 ± 8.8).

The social classes of the family of the study children were class II, class IV, class III and class I (35.6%, 30%, 25.5% and 8.9% respectively, with moderate statistically difference $X^2=10$, $P<0.01$) and the mean of socioeconomic standard of research children was 17.99 ± 5.37 , which reflected low social standard of those children according to an Egyptian classification (Fahmy and El-Sherbini, 1983) (Table 1, 2), there was a highly significance correlation between socioeconomic stranded and mental, social and language ages of the studied children ($r=0.794$, 0.713 and 0.863 respectively, $P<0.01$) (Table 4), as well as highly significance positive correlation between the socioeconomic standards and scores of receptive language, expressive language, semantics, pragmatics and prosody ($r=0.855$, 0.855 , 0.864 , 0.840 and 0.852 respectively, $P<0.01$). Within this frame work Pan, et al. (2005) introduced the terms of restricted code and elaborated code of social classes. The restricted code is connected to parents from lower social classes, they tend to be more directive and forbid and command more and talk less to their children. The elaborate code is connected to parents from higher social classes who tend to be more explanatory, and they name and verbalize the word and situation to their children.

Baron, et al. (2002) were found among parents with low SES, the top developmental priority became survival and physical health, followed by stimulating their children to develop behavioral capacities for economic self maintenance and other minority cultural values. This view may reflect the harsh relation between families and their children that viewed in (Table 2). There was miss understanding and dealing with the child problems (Only 32.2% of studied children's family were understanding and supporting their child with high statistically difference $X^2=34.6$, $P<0.001$). The relation between the child and his parents was either (Warmth, dependent, ambivalence, overprotection, independent, hatred and hostility) (45.6%, 18.9%, 17.8%, 11.1%, 4.4%, 1.1% and 1.1% respectively, with high statistically difference $X^2=92.3$, $P<0.001$) and the relation between the child and his brothers was either (Hatred, warmth and jealousy) (53.3%, 30%, and 16.7% respectively,

with mild statistically difference $X^2=9.3$, $P<0.05$). So the parents were overprotecting their child and the child mainly dependant on them in his/her life activities which turned his/her brothers to deal with him/her in hatred or jealous manner mainly. The probably ideal person was absent in 88.9% of cases with high statistically difference $X^2=54.4$, $P<0.001$, in addition those parents were correcting the child faulty behavior in a wrong way either beating, severe punishment, no method for child correcting behavior, bribing, convincing, insulting and praising (34.4%, 28.9%, 22.2%, 5.6%, 4.4%, 3.3% and 1.1% respectively, with high statistically difference $X^2=72.4$, $P<0.001$).

Table (3) represented scholastic history of the study children, about 58.9% of cases not attending regularly to their nursery school with high statistically difference $X^2=26.5$, $P<0.001$ also, causes of discontinuation of school were mainly related to truancy of the parents (81.1% with high statistically difference $X^2=154.4$, $P<0.001$). It showed also, school performance which may be bad or good (64.5%, and 35.5% respectively, with high statistically difference $X^2=38.9$, $P<0.001$) as well as school behavior which may be isolated, submissive, aggressive or normal (58.9%, 17.8%, 13.3% and 10% respectively, with high statistically difference $X^2=56.6$, $P<0.001$). Adaptation of study children to school teachers may be not, just or well adapted (70%, 18.9% and 11.1% respectively, with high statistically difference $X^2=56.6$, $P<0.001$). These results agreed with Chapman, et al. (2002) study that considering childhood poverty negatively impacted academic achievement, school performance, placement, and years of completed education. In addition qualified nursery school dealing with those children was coasty to the parents and the parents were looking to their children in a frustrated manner so they were overprotecting them and kept them away from any criticizing situation.

Table (4) represented social history of the study children, the parents were avoiding social attendance to social events (96.7% of cases not attendening the social events with high statistically difference $X^2=78.4$, $P<0.001$), social performance was either bad or good (58.9%, and 41.1% respectively, with no statistically difference $X^2=2.8$, $P>0.05$), as well as social behavior which were either submissive, aggressive or normal (41.1%, 30% and 28.9% respectively, with mild statistically difference $X^2=9.3$, $P<0.05$). Attitude towards his same age colleagues may be submissive, aggressive, good or isolated (38.9%, 23.3%, 22.2% and 15.6% respectively, with high statistically difference $X^2=10.5$, $P<0.05$). These results confirming the conclusion that the social environment of the child is the most important aspect of how they cope with experiences in his/her different cognitive aptitudes (Loeber and Stouthamer, 1986). In addition those children were lacking the social skills experience mainly because their total dependency on their parents in dealing with people and colleagues

hence they would be submissive or aggressive or isolated socially, only 22.2% of them who showed a normal attitude in dealing with their colleagues.

In this research scholastic degree of the father's education of the studied children showed positive correlation with scores of receptive language, expressive language, semantics, pragmatics and prosody of their children ($r = 0.772, 0.772, 0.773, 0.754$ and 0.769 respectively, $P < 0.01$), as well as the scholastic degree of the mother's education, showed positive correlation with scores of receptive language, expressive language, semantics, pragmatics and prosody of their children ($r = 0.822, 0.822, 0.839, 0.815$ and 0.819 respectively, $P < 0.01$). Educated parents were interested in adjusted their language when interacting with their developmentally delayed child separately or in tandem. Parents were given responsibility for socializing their child to think and act like members of the social group (Chapman, et al. 2002). Socialization proceeded through continual rearrangement of the environment as the child gained maturity and brought changes that encourage still more mature behaviors. Parents rearranged the environment to provide social partners and settings for their children to learn to speak. Communication between parents and children allowed the children to extend their language into new contexts, to meet the conditions of various speech acts, to maintain topics across turns and to know what is worth talking about (Tomblin, et al. 1997 and Stoel, 1990). So the child was learned and internalized conventions for making their intentions clear as they learn to regulate language use with others (Jensen and Hoagwood, 1997).

The results of this work were agreed with Vygotsky's approach of language, thought and social interaction which viewed language as a multifunctional and context-dependent system mediating simultaneously cognitive and social development (Vygodskaya and Lifanova, 1996 and 1999).

RECOMMENDATIONS

There is a growing recognition that psychosocial factors do work affecting language acquisition and development. So, prevention; for example, improving parenting skills through training can substantially have a profound influence on a child's developing attitudes, values, and beliefs, and should be considered when adopting a developmental approach.

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الملخص العربي

العوامل الاجتماعية والنفسية التي تؤثر على تنمية اللغة في الأطفال ذوي الإعاقة الذهنية بدرجة بسيطة

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لهم، كما تم تطبيق مقابلة شبه مقننة لأسرهم وقد صممها الباحثين وتشمل مختلف الجوانب الاجتماعية والنفسية التي تؤثر في نمو اللغة لدى أطفالهم. وظهرت النتائج وجود علاقة ايجابية بين نمو اللغة في الأطفال ذوي الإعاقة الذهنية البسيطة والمستوى المادي والاجتماعي لأسرهم، كذلك ودرجة تعليم كلا من الآباء والأمهات. وبذلك تشير الدلائل على أهمية الدور الذي تقوم به الأسر في مساعدة أطفالهم على نمو وتحسين مهاراتهم اللغوية وعند تبني الأسلوب التنموي ينصح بتدريب الأسر لتحسين المهارات التربوية مما لها الأثر الكبير في تنمية المواقف والقيم والمعتقدات لدى أطفالهم.

تلعب الجوانب الاجتماعية والنفسية دور عظيم في نمو اللغة عند الأطفال ذوي الإعاقة الذهنية. وقد تمت هذه الدراسة لتقييم تأثير وارتباط دور الدعم الاجتماعي والنفسى ودرجة ونوع الرعاية من أسر الأطفال ذوي الإعاقة الذهنية بدرجة بسيطة على تنمية قدراتهم اللغوية. وقد أجرى هذا البحث على ٩٠ طفل ممن لديهم تأخر في نمو اللغة بسبب اعاقه ذهنية بدرجة بسيطة (٣٩ أنثى و ٥١ ذكر) وكان متوسط أعمارهم ٤٢,٦ شهراً ومتوسط معامل ذكاؤهم ٦١,٥. وقد تمت مقابلة الأطفال وذويهم وتم وضع بروتوكول لدراسة تأخر نمو اللغة لديهم وكان يحتوي على: المقابلات الاكلينيكية وتقييم معامل الذكاء لهم باستخدام اختبارات ستافورد بينيه وفنلاندر للعمر الاجتماعي، وتم اجراء اختبارات اللغة