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PARENTS' PSYCHOSOCIAL PROBLEMS INFLUENCING THE CONTINUITY OF EARLY INTERVENTION TREATMENT IN CHILDREN WITH DEVELOPMENTAL DELAY

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Developmental delay is a chronic disorder, which has a significant and continuing impact on the developmental progress of children. Whether the developmentally delayed children have continuous early intervention treatment is important for the success of early intervention. Professionals in early intervention services have been encouraged to understand parents' psychosocial problems and to further enhance their understanding of care for their delayed children. The purposes of this study were two-fold. The first was to identify the parents' psychosocial problems. The second purpose was to find parents' psychosocial variables that could be used to significantly discriminate whether the retarded children have continuously received treatment programs. A questionnaire to investigate parents' psychosocial problems was implemented. It mainly consisted of twenty descriptive items concerning parents' psychosocial conditions. Parents used a four-point Likert scale to rate the likelihood of the items. Parents also responded as to whether their child had received treatments continuously. Subjects were the parents of children who were diagnosed to have developmental delay. Factor analysis and discriminant analysis was used for statistical data examination. Analyzed data were from 207 completely finished questionnaires. Six parents' psychosocial factors were extracted via factor analysis, and they accounted for 46.9% of the variance of the twenty items. The factors were identified as family income, family members' relationships, caring skills, supporting resources, acceptance of the retarded child, and self-psychological adaptation. About half of the children had received treatment continuously. Discriminant analysis revealed that family income was crucial to parents' capacity to meet the needs for treatment.

Key words: developmental delay, early intervention, parents' psychosocial problems

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Developmental delay comprises a heterogeneous group of related early-onset chronic disorders that share the essential feature of a predominant disturbance in the acquisition of cognitive, motor, language, or social skills. Developmental delay has a significant and continuing impact on the developmental progress of children [1]. Long-term early intervention treatments always encompass therapy or educational programs which provide a range of stimulation and training activities for the developmentally delayed children aged under six, and for their families [1, 2].

The reported benefits of early intervention are that it can increase the developmental and educational gains for retarded children [3, 4] and also improve the functions of families [5, 6]. Development of retarded children always needs to be regularly

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monitored via long-term treatment interventions. Whether children receive treatments continuously is important for the success of early intervention.

Treatment for retarded children relies mostly on the parents' ability to meet the needs of treatment. In recent years, a variety of researches have emphasized the importance of parents' participation in their children's intervention processes [7-9]. Professionals in early intervention services are encouraged to understand parents' psychosocial problems and further enhance their capacity regarding care for their retarded children. It seemed worth investigating how the psychosocial factors impact on the continuity of their children receiving early intervention treatment.

The purposes of this study were to identify parents' psychosocial problems that related to care for developmentally delayed children and to find whether the children had continuously received treatments. The second purpose was to find parents' psychosocial variables that could be used to significantly determine whether retarded children would continuously receive treatment programs.

MATERIALS AND METHODS

A questionnaire investigating parents' psychosocial factors was designed for parents to fill out and was implemented by the authors in this study. The draft of the questionnaire was given to ten parents in a preliminary trial. The draft was reviewed for clarity and simplicity based on responses from these parents. The questionnaire was revised to ensure that all meaningful items were included and that the words were easy to understand.

The questionnaire consisted of two main parts. An introductory paragraph described the purpose of the research and the first part included questions on demographic data of parents and their children. The second part consisted of twenty descriptive items concerning parents' psychosocial conditions. A four-point Likert scale (1=not likely, 4=very likely) was used to rate the likelihood for each descriptive item. Another item asked whether the child had received early intervention treatments continuously since diagnosed with developmental delay, and parents needed to respond either yes or no to this item. In this study, early intervention treatments were expressed as rehabilitation programs or special education lessons. Children who had received treatments continuously were represented as having received treatments regularly per week or per month; only occasionally were they sick and absent from treatments.

Subjects were the parents of children who had visited the Joint Evaluation Team for Children with Developmental Delay of Kaoshiung Medical University affiliated hospital in the period from April 1997 to February 1999. Questionnaires were given to the parents on the conditions that: a) parents and their children lived in the region of Kaoshiung city or Kaoshiung county, and b) children had received assessments at the Joint Evaluation Team and were identified as developmental delay. Explanations were given to participant parents for any questions about filling out the questionnaires. The completed questionnaires were collected by mail.

Responses were coded and analyzed using the statistical software package SPSS 8.0 for Windows Applications. Of the responses to items regarding the psychosocial conditions of the parents, factor analysis [10] was used for grouping the items (variables)

Table 1. Demographic data of the participant parents and their developmentally delayed children (N=207)

Items	Mean ± SD	No. of fathers	No. of mothers
Age of fathers (year)	35.9 ± 4.9		
Age of mothers (year)	32.7 ± 4.9		
Age of their children (year)	4.6 ± 2.5		
Educational level of parents:			
Primary school		1	7
Junior high school		4	28
Senior high school		11	102
College		7	43
Graduate school		1	3

into a few factors by analyzing the correlation of interrelated quantitative variables. Discriminant analysis [11] was used for investigating and finding out variables that are important for distinguishing between children who had continuously received treatment and those who had not. The internal consistency of these items was measured by examining the strength of correlation among items. Statistical significance was determined based on α =0.05.

RESULTS

A total of 520 questionnaires were given out. Parents filled out the questionnaires from January 1999 to April 1999. Parents of 227 children (42.5%) returned the questionnaires. Of these returned questionnaires, 207 had been completely finished and these questionnaires were adopted for further statistical analysis. Contact was made with the parents who did not respond. They did not respond because they were too busy, the parents had a negative attitude to questionnaires, or they promised to answer but never did. The demographic data of the 207 participant parents and their delayed children are listed in Table 1.

In the factor analysis for the items of psychoso-

Table 2. Six extracted factors and their factor loadings from the original items regarding parents' psychosocial conditions

Renamed factors and their original items included	Factor loadings
(Factor 1) Family income	
Poor family economics due to needs of the retarded child	.837
A great outlay for the child's therapies and education	.818
Daily life disrupted when caring for the retarded child	.555
Poor living environment for the retarded child	.483
Job discontinued due to caring for the retarded child	.425
(Factor 2) Family members relationship	
Care for the child causing inharmonious spouse relationship	.758
Family members dispute how to care for the child	.648
Worry about family members who don't accept the retarded child	.599
Siblings don't like the retarded child	.428
(Factor 3) Caring skills	
Feel lack of good caring skills	.688
Feel lack of adequate caring knowledge	.638
(Factor 4) Supporting resources	
Don't understand the developmental problems of the child	.686
Unaware of the services of early intervention	.401
Doubts about the effects of intervention treatments	.379
Don't know what social welfare or finance are available	.366
(Factor 5) Acceptance of the retarded child	
Can't accept the retarded conditions of the child	.593
Worry about child's delay being known by neighbors or friends	.463
(Factor 6) Self- psychological adaptation	
Time for rest and self-recreation is decreased	.440
Care for child causes great psychological stress	.368
Hard to explain the child's problem to the family	.302

Table 3. Standardized discriminant function coefficients between variables and discriminant functions (dependent variable)

Variables (Factors)	discriminant coefficients	
	Standardized	Non-standardized
Family income	0.858 *	0.949*
Supporting resources	-0.368	-0.452
Self-psychological adaptation	0.359	0.469
Caring skills	0.129	0.155
Family members relationship	-0.076	-0.086
Acceptance of the retarded child	0.042	0.057

dependent variable: Children had received treatment continuously (coding 0), Children hadn't received treatment continuously (coding 1)

* $p < 0.05$: family income had a statistically significant contribution to the dependent variable

Table 4. Frequency and percentage analysis for the classification results of discriminant analysis (valid cases=188)

	Predicted groups: subjects number	
	Continuously receiving treatments	Non continuous treatments
Actual groups		
Continuously receiving treatments	58 (60.4%)	38 (39.6%)
Non continuous treatments	37 (40.2%)	55 (59.8%)

cial conditions, after the principal component analysis solution with varimax rotation, six factors were extracted and they accounted for 46.9% of the variance of the twenty items. The six factors were renamed respectively, according to the original items they included. Table 2 lists these six renamed factors, the original items included in each factor, and the factor loading. The reliability coefficient of Cronbach α, for analyzing internal consistency of the items, was calculated as 0.89.

There were 96 positive responses to the item of whether the child continuously received treatment, and there were 92 negative responses (19 missing values), so that about half of the subjects' children had received treatment continuously. This item was also used as a dependent variable for the subsequent discriminant analysis.

The result of discriminant analysis is shown in Table 3. The variables were sorted by values of the discriminant coefficients. Larger discriminant coefficients of the corresponding variables were thought to contribute more to the overall discriminant function (dependent variable). The first variable listed in Table 3 was found to have statistically significant meaning. Summary classification results of discriminant analysis are listed in Table 4. The correct classification into two predicted groups by this significant variable is 60.4% of the cases. A predicted group was expressed as the most likely group a case would fall into, based on the discriminant analysis, whereas an actual group is simply the group to which a case actually belongs.

DISCUSSION

In the present study, the findings about parents' psychosocial factors extracted in this study were similar to some other researches [12,13]. In a study in-

vestigating 297 parents of intellectually disabled children [12], the results revealed that the parents' needs are information support, professional support, services support, economic support and psychic support respectively. Similarly, in the study of Bailey and Blasco [13], the domains used for assessing family needs are information, support, explaining to others, community services, financial needs and family functioning. Therefore, the psychosocial factors studied in this study were the quite important factors to be regarded when parents' problems are investigated.

The other finding in the present study was that only about half of the patients responded positively that their children had received treatment continuously. From the results of discriminant analysis, family income was found as the significant variable for discriminating whether the children had continuously received treatments or the treatments had been discontinued. We noted that low family income might significantly prevent retarded children from receiving treatments continuously. This result showed that family income was crucial to parents' capacity to meet the needs for receiving treatment. In the present study, beside the factor of family income, other parents' psychosocial factors were not found as significant contributors. We conclude that some other factors that contribute to the continuity of early intervention treatments have still not been identified. In future studies, it is worth investigating other important variables that would influence the continuity of treatments. There is a scarcity of other researches that discuss how family income or financial support would influence developmentally delayed children receiving treatment. This study was to identify significant variables that were important for influencing the continuity of treatment in an attempt to cope with the special problems that parents have. Professional understanding of the problems of parents may greatly assist in providing intervention strategies and services that are meaningful to the parents. Service providers would instruct parents in effective home care skills to reduce transport and time demands on parents visiting treatment departments. Service providers would also supply related knowledge of social financial welfare applications in order to ensure developmentally delayed children could acquire necessary continuous early intervention treatments.

Future researches should be directed at studying effective strategies that can be used to promote necessary continuous treatments in children with developmental delay.

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父母親的心理社會問題對發展遲緩兒童持續接受早期介入治療的影響

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發展遲緩爲一慢性的失能，其結果會影響兒童的長期成長發育。發展遲緩兒童是否有接受持續的介入治療爲早期療育能否改善兒童成長情況的關鍵因素。早期療育專業人員應關心及了解家長在照顧發展遲緩兒童上的困難，並提供相關協助以促進家長有效地養育遲緩兒童。本篇的研究目的，其一爲了解發展遲緩兒童家長的心理社會問題；其二爲分析有那些家長心理社會因素呈現出能有效地用於區辨是否影響發展遲緩兒童接受持續的介入治療。本篇研究者發展出一份調查家長心理社會問題的問卷。問卷中主要有20題描述性問題，家長以Likert 4點評分方式表達對每描述性問題的同意度；家長同時回答其孩子是否有接受持續的早期介入治療。參予研究的個案爲發展遲緩兒童的家長。本篇以因素分析及區辨分析進行資料的統計檢驗。分析的資料取自207份填寫完畢的問卷。因素分析的結果粹取出6個家長心理社會因素，占總解釋量的46.9%。粹取出的因素重新命名爲家庭收入、家人互動關係、照顧技巧、支持性資源、對遲緩兒童的心理接納及家長的心理適應。調查結果約有一半的個案有持續接受早療介入治療。區辨分析的結果顯示出家庭收入爲影響家長是否能配合其發展遲緩孩子持續接受治療的重要因素。

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