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ปัจจัยที่มีความสัมพันธ์กับปัญหาสุขภาพจิตของมารดาเด็กพัฒนาการล่าช้า

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บทคัดย่อ

วัตถุประสงค์ เพื่อศึกษาปัจจัยที่มีความสัมพันธ์กับปัญหาสุขภาพจิตของมารดาเด็กพัฒนาการล่าช้าของโรงพยาบาลในภาคใต้

วัสดุและวิธีการ การศึกษานี้เป็นการศึกษาเชิงวิเคราะห์ย้อนหลัง กลุ่มตัวอย่าง คือ มารดาเด็กอายุแรกเกิดถึง 5 ปีที่มีพัฒนาการล่าช้าที่คลินิกกระตุ้นพัฒนาการของโรงพยาบาลในภาคใต้ 3 จังหวัด คือ สุราษฎร์ธานี นครศรีธรรมราชและสงขลา ระหว่างเดือนตุลาคม พ.ศ.๒๕๕๖ ถึง เดือนมีนาคม พ.ศ.๒๕๕๗ จำนวน 210 คน จำแนกเป็นกลุ่มศึกษาและกลุ่มควบคุมด้วยแบบสอบถาม The Parental Stress Scale (PSS) ที่ประยุกต์โดยผู้วิจัย เครื่องมือคือ แบบสอบถามความสามารถทางพัฒนาการของเด็ก การมีส่วนร่วมของสมาชิกครอบครัวในการดูแลเด็ก ความสามารถของมารดาในการดูแลเด็ก ผลกระทบต่อครอบครัวจากการดูแลเด็ก สัมพันธภาพในครอบครัว การสนับสนุนทางสังคมและแบบคัดลอกข้อมูลของเด็กจากเวชระเบียนผู้ป่วยนอก วิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณนา หาความสัมพันธ์ระหว่างปัจจัยส่วนบุคคล–สังคมของมารดา ปัจจัยส่วนบุคคลของเด็ก และปัจจัยด้านสิ่งแวดล้อมกับปัญหาสุขภาพจิตของมารดาเด็กพัฒนาการล่าช้าด้วย Chi–square test ประมาณค่าระดับความสัมพันธ์ และคาดทำนายภาวะสุขภาพจิตของมารดาเด็กที่มีพัฒนาการล่าช้าด้วย logistic regression

ผล ปัจจัยที่มีความสัมพันธ์กับปัญหาสุขภาพจิตของมารดา คือ ความสามารถของมารดาในการดูแลเด็ก และการสนับสนุนทางสังคม

สรุป ความสามารถของมารดาในการดูแลเด็ก และการสนับสนุนทางสังคมเป็นปัจจัยสัมพันธ์กับปัญหาสุขภาพจิตของมารดา ดังนั้น จึงควรส่งเสริมศักยภาพของมารดาให้มีความมั่นใจในการเลี้ยงดูเด็ก รวมถึงการสนับสนุนทางสังคม

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Factors associated with mental health problems of mothers of delayed development children

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Abstract

Objectives To identify the factors associated with mental health problems of mothers of delayed development children in hospitals in the southern region.

Materials and methods This was case–control study. A total of 210 mothers of children with delayed development at development stimulation clinics in hospitals of three provinces in the southern region; Surat Thani, Nakhon Si Thammarat and Songkhla. Cases and controls were identified by mental health screening scale using the modified Parental Stress Scale (PSS). Data collection was performed from October 2013 to March 2014, using self–administered questionnaires: child's adaptive developmental quotient, family member involvement, parenting competence, family impact, family relationship and social support and child's personal data record forms. The chi–square test was used to test the association among independent variables (mothers' personal–social, child's personal and environmental factors) and maternal mental health problems. Unconditional logistic regression analysis was used to estimate the magnitude of associations and predict mental health problems among mothers of delayed development children.

Results Factors significantly associated with maternal mental health problems were parenting competence and social support.

Conclusion Level of parenting competence and lower levels of social support were factors associated with maternal mental health problems. The promotion of parenting competence, and emotional, tangible, and informational support have been important to the focus of parent training programs. These help these mothers to manage their mental health problems more effectively and increase their parenting behavior and skills.

Key words : delayed development, maternal, mental health

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Introduction

Children with delayed development have developmental patterns that deviate from the norm and are slower than other children at same age. Delay development is not only one area, but has been observed in several areas including global developmental delay and each area may affect the others.[1] The disabilities not only affect to self–adjustability, self–help skills in daily living activities or multi–dimensional society of a child, but also affect their caregivers.[2] Many studies have shown that mothers were the main caregiver (approximately 65% to 98%) of delayed development children, chronically illness or other disabilities in their families.[2–4] That care included feeding, maintaining body cleanliness, supporting, and preventing of any accidents. The children could not be left alone because their self–care abilities were limited.[5]

In addition to the limitations as mentioned, the children with delayed development also display of multi–formal behaviors. They depend on disorder characteristics or co–morbidity, which contributes to difficulty, complexity in child care managing and long–term intensive care that relies on patience and responsibility.[6] It affects maternal mental state and creates feelings of low self–esteem in living, exhaustion, stress or strain and causes mental health problems.[6] There is a large body of the evidence supporting the notion that mothers of children with delayed development experience more mental health problems (i.e., stress, depress, strain) than mothers of children with normal development and the general population.[4,5,7]

A review literature, found factors that are known or thought to associate with mental health problems of mothers of delayed development children including mothers below the age of 30[8], less than high school or less education[9], children with the greater severity of disability[10] and lower levels of social support.[11] However, most of those studies were conducted in western countries, so the results may differ from studies in Asian countries because of the economic and socio–cultural factors including health care system and others different factors.[6,12]

In Thailand, there were relatively inadequate for describing the relationships between various factors and maternal mental health problems. As a result, the researcher was interested in studying factors associated with mental health problems of mothers of delayed development children in hospitals in the southern region. The research finding will be used to set baseline data and support information to establish plans to supervise and promote mental health of those mothers.

Materials and methods

Participants were the mothers of children aged 0–5 years old with delayed development that received services at development

stimulation clinics in hospitals of three provinces in the southern region: Surat Thani, Nakhon Si Thammarat and Songkhla from October 2013 to March 2014. A total of 210 participants were chosen based on the systematic sampling technique of the sampling frame. The inclusion criteria for the subjects were as follows: mothers aged 18 years or more, able to speak, write and communicate in Thai, without hearing loss and eye sight impairment, willing to participate, sign informed consent forms, and receive a detailed explanation of this study and who with a summarized score less than 32 points on the mental health screening. In part of mothers who could not contact on data collection periods were excluded.

Cases and controls were identified by using the modified Parental Stress Scale (PSS)[13], 70 mothers who had the summarized score less than 32 points allocated as the case group and 140 mothers who had the summarized score interval 32–44 points allocated as the control group, based on the criteria of the American Psychiatric Association.[14] In addition, controls were recruited from the same hospital as cases.

Ethics approval was obtained from the Ethics Review Committee for Research in Human Subjects of Siriraj Institutional Review Board (September 27, 2013) and eight relevant hospitals research ethics committees. Data collection was performed by using self–administered questionnaires and record forms.

There were 9 instruments used: -*general information,* developed from documents and literature review comprising 20 items. -*Child's adaptive developmental quotient,* modified the Denver Developmental Screening Test (DDST), developed by Frankenburg WK et al.[15] edited and translated into Thai version by Kotchabhakdi N and Lert–Awasadatrakul O[16] to assess the development quotient of the children with delayed development. It identifies development milestones composing three dimensions were: 1) activities of daily living, 2) mobility and 3) communication and verbalizing needs. The scale comprised 30 items and the answering were no assistance, some assistance and complete assistance and Cronbach's Alpha Coefficient value was 0.96. -*Family member involvement,* the three–levels rating scale instrument was modified from of the Who Does What Questionnaire, developed by Cowan CP and Cowan PA[17] to assess the level of family member involvement. This scale comprised 10 items and the answers were designed as have not, sometimes and regularly. The Cronbach's Alpha Coefficient value was 0.81. -*Parenting competence,* the four–levels rating scale of the parenting competence survey was modified from the Parenting Sense of Competence of Johnston C and Mash EJ[18] developed by Gibaud–Wallston J and Wandersman LP[19] to assess the level of the mother's competence of child care. This scale comprised 9 items and the answers were

designed as strongly agree, agree, disagree and strongly disagree. The Cronbach's Alpha Coefficient value was 0.76. -*Family impact*, the four–levels rating scale of family impact survey was modified the Family Impact Questionnaire (FIQ), developed by Donenberg G and Baker BL[20] to measure the level of family impact of child care. The scale comprised 12 items and the answers were designed as have not, sometimes, a lot and very much. The Cronbach's Alpha Coefficient value was 0.78. -*Family relationship,* the researcher applied the four–levels rating scale of the Indicator and Criterion of Family Lived Happily, developed by Kotchabhakdi N[21] to assess the level of family relationship. The four indicators were: 1) time consuming for family activities participation, 2) communicating, consulting, and decision making in all important things, 3) love and carefulness appearance and 4) perform appropriately with responsibility. The scale comprised 10 items and the answers were designed as strongly agree, agree, disagree and strongly disagree. The Cronbach's Alpha Coefficient value was 0.80. -*Social support,* modified the four–levels rating scale of social support survey of the Medical Outcomes Study Social Support Survey (MOS–SSS), developed by Sherbourne CD and Stewart AL[22] comprising three aspects: 1) emotional support, 2) tangible support and 3) informational support. The scale comprised 10 items and the answers were designed as strongly agree, agree, disagree and strongly disagree. The Cronbach's Alpha Coefficient value was 0.81. -*Mental health screening scale,* the four–levels rating scale of mental health survey was modified the Parental Stress Scale (PSS), developed by Berry JO and Jones WH[13] to assess maternal mental health problems. The scale comprised 11 items and the answers were designed as strongly agree, agree, disagree and strongly disagree. The Cronbach's Alpha Coefficient value was 0.85. A record form was used to record personal data such as syndrome group, type of delayed development and results of the sensation test of delayed development children from OPD cards.

Data were analyzed by descriptive and analytical methods. The chi–square test was used to identify those variables that significantly association with mental health problems (PSS score). Variables of univariate analysis with a p–value less than .05 were obtained and logistic regression analysis was conducted for predicting maternal mental health problems.

Results

A total of 210 mothers of children with delayed development, 70 identified as case group and 140 defined as control group. The general characteristics factors that were not significant different among case and control groups including age, religion, marital status, occupation, personal disease, duration of care, number of

children, number of delayed development children and family type, except for 2 significant different characteristics: educational level and average household income. Regarding to case group, a half had moderate levels of parenting competence and higher levels of family impact; 48.6% lower levels of family member involvement. Around a half (55.7%) had poorer levels of family relationship; 62.0% lower levels of social support and about four–fifth had children with development in social and self–help skills delayed. In the control group, 42.1% attained bachelor and higher level of education. The median average household income was 20,000 baht/month; 92.1% had moderate to high level of parenting competence. Almost 80.0% had moderate to high level of family member involvement; 89.3% had lower to moderate levels of family impact; 90.0% had fair to good level of family relationship; about 86.0% had moderate to high level of social support and 67.1% had children with social and self–help skills delayed (Table 1).

Table 1 The general characteristics among case and control

factors	number (%)		p–value
	cases (n=70)	control (n=140)	
age : median (SD)	35 (7.3)	34 (6.4)	.07[a]
religion : Buddhism	62 (88.6)	123 (87.9)	1.00[b]
marital status : married	64 (91.4)	127 (90.7)	1.00[b]
occupation			0.16[a]
unemployed/housewife	17 (24.3)	38 (27.1)	
agriculturist	18 (25.7)	25 (17.9)	
civil servant	1 (1.4)	13 (9.3)	
state enterprise	4 (5.7)	8 (5.7)	
laborer	16 (22.9)	21 (15.0)	
vendors/personal business	14 (20.0)	35 (25.0)	
personal disease : no	64 (91.4)	131 (93.6)	0.58[b]
educational level			.01[a]
primary school	14 (20.0)	18 (12.9)	
secondary school	15 (21.4)	18 (12.9)	
high school	20 (28.6)	26 (18.5)	
diploma	6 (8.6)	19 (13.6)	
bachelor and higher	15 (21.4)	59 (42.1)	
duration of care (months) : ≥12	62 (88.6)	129 (92.1)	0.45[b]
number of children : 2	30 (42.9)	64 (45.7)	0.70[a]
number of delayed development children : 1	67 (95.7)	137 (97.9)	0.40[b]
family type : nuclear/elementary	42 (60.0)	79 (57.6)	0.88[a]
average household income (baht) : <27,000	55 (78.6)	87 (62.1)	.02[b]
parenting competence: median (SD)	22 (3.3)	28 (3.9)	<.01[a]
family member involvement: median (SD)	12 (4.4)	15 (3.6)	<.01[a]
family impact: median (SD)	33 (5.9)	43 (5.3)	<.01[a]
family relationship : median (SD)	27 (4.5)	33 (4.5)	<.01[a]
social support : median (SD)	29 (3.3)	33 (3.9)	<.01[a]
children with social and self–help skills : delay	57 (81.4)	94 (67.1)	.03[b]

[a] *Pearson Chi–Square test,* [b] *Fisher's exact test*

The univariate and multivariable logistic regression analyses are reported in Table 2. In the univariate analysis, factors that associated with maternal mental health problems included an educational level, average household income per month, parenting competence, children with social and self–help skills delay, family member involvement, family impact, family relationship and social support.

Table 2 Associations between selected factors and maternal mental health problems

factors	n(%)		univariate		multivariate	
	case (n=70)	control (n=140)	crude OR	95%CI	adj. OR	95%CI
educational level						
below high school	29(41.4)	36(25.7)	3.2†	1.5, 6.7	1.6	0.6, 4.3
high school	20(28.6)	26(18.6)	3.0†	1.3, 6.8	2.6	0.9, 7.6
Diploma	6(8.6)	19(13.6)	1.2	0.4, 3.7	0.9	0.3, 3.5
average household income						
<27,000	55(78.6)	87(62.1)	2.2*	1.1, 4.2	0.7	0.3, 1.7
parenting competence level						
low	34(48.6)	11(7.9)	11.1†	5.1, 24.0	4.2*	1.3, 14.1
type of delayed development						
social and self–help skills						
delay	57(81.4)	94(67.1)	2.2*	1.1, 4.3	2.0	0.8, 4.9
family member involvement level						
low	34(48.6)	29(20.7)	3.6†	1.9, 6.7	1.6	0.6, 4.1
family impact level						
high	35(50.0)	15(10.7)	8.3†	4.1, 17.0	0.9	0.3, 3.4
family relationship level						
poor	39(55.7)	14(10.0)	11.3†	5.5, 23.4	2.4	0.7, 8.5
social support level						
low	43(61.4)	20(14.3)	9.6†	4.9, 18.8	3.4	1.5, 7.9

** p <.05, † p <.01*

educational level: bachelor and higher as reference, average household income: ≥ 27,000 as reference, parenting competence level: moderate/high as reference, social and self–help skills: normal as reference, family member involvement level: moderate/high as reference, family impact level: moderate/low as reference, family relationship level: fair/good as reference, social support level: moderate/high as reference

In the multivariable model, logistic regression analysis demonstrated that mothers with the lower levels of parenting competence had significantly more likely to have mental health problems about 4.2 times compared with those who had moderate to high levels and also mothers with the lower levels of social support were 3.4 times more likely to have mental health problems compared than those mothers with the moderate to high levels. Other variables were not significantly associated with maternal mental health problems.

Discussion

This study found that lower levels of parenting competence and lower levels of social support were the most important factors associated with maternal mental health problems.

For mothers of children with delayed development, in the beginning at birth, the immediate stressor mothers encountered was facing a child, who was totally different from their expectation.[12] All of these mothers needed months and some even years to accept the fact that they did have a child with delayed developmentally and that they faced a lot of stress. The condition and the crisis that occurred were very hard to be prevented. These mothers reported a loss of parenting competence and efficacy.[23] According to a population–based study of Montes G and Halterman JS[24] those mothers reported that their child was harder to care for than most children, found to be 7.6 times. If mothers are unable to respond to their child's cues and to appropriately give care, they will eventually develop negative feelings about the maternal role.[25]

Feelings of unconfident or incompetence in the maternal parenting role predicted a measure of mental health problems. Perceptions of one's own competence may be especially vulnerable in parents raising children under difficult conditions. As a result they may require greater support and service provision to enhance behavior management skills.[26] While greater parenting competence has been associated with increased satisfaction with the maternal parenting role, belief in their ability engenders a sense of control that decreases negative emotions; they can use more strategies to achieve their goals and thereby decrease maternal mental health problems.[27,25] Furthermore, mothers' confidence can be increased by previous experience with their child, holding positive attitudes and acquiring skills necessary for parenting, thus increasing their knowledge and adaptation to the maternal role.[25]

Some evidence in the literature supports that the amount and quality of social support available to mothers is an important factor in moderating the impact of maternal parenting. They have demonstrated that social support is an important mediating variable in buffering stressful events; the more the social support an individual

receives, the lower the level of stress.[11,23,26] According to the study from Lee MY et al.[8] indicated that lower levels of social support were associated with higher maternal stress as, social support can alleviate mothers' pressure. Moreover, social support could relieve depression and increase self–esteem, coping strategies, life satisfaction and also elevate psychological well–being of an individual.[28]

In fact, within many types of support area, the support from the spouse within their family is the most important support.[29,30] Mothers experiencing the least stress were receiving the greatest support from their spouses or partners, so it has powerful buffering effects[7]. Furthermore, the results by a study of Howie–Davies R and McKenzie K[31] indicated that the more information and support mothers received, the lower their stress levels. For other supports (i.e., labor, materials, money and conveniences in all services) are also important and necessary for these mothers to diminish stress.

These study findings suggest that medical personnel should make every effort to screen for maternal mental health, especially when a child was diagnosed with developmentally delayed, to present interventions aimed at reducing or preventing these negative outcomes and ensure that they receive needed mental health services. For maternal mental health screening; using an applied parental stress scale (PSS) is sufficiently proper for and to represent real mental health problems that occur from caring for these children.

Limitations

There are some potential limitations in this study. First, study samples was obtained by collecting subjects from mothers of delayed development children who only lived in the southern area, the generalization may not apply to those mothers who living in other regions because the socio–economics, culture and facilities differed. Second, the information was gathered from mothers only, so these results may not be generalized to other caregivers, (e.g., fathers, grandparents, step or foster parents and relatives). Third, the critical measures were self–administered questionnaires, and although they were well suited to the study's focus on self–perceptions and experience of health, they were limited in their ability to assess health objectively or in detail because of the influence of memory and judgments or recall bias. Finally, most children in this study were preschool age and received of development stimulation continuously and thus, mothers of these child are adjusted themselves for a while. As a result, the emotional or mental changing that was measured may not reflect the actual mental health problems of these mothers.

Conclusion

Lower levels of parenting competence and lower levels of social support were most important factors associated with maternal mental health problems. Screening the mothers' mental health are necessary aimed at reducing or preventing these negative outcomes. The promotion of parenting competence, and emotional, tangible, and informational support have been important to the focus of parent training programs. These help these mothers to manage their mental health problems more effectively and increase their parenting behavior and skills.

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References

1. Fueangfu A. Delayed Development. In: Singkalwanit S, Sangtaweesin C, Si–udomkhachorn S and Kanchanapongkul S, editors. Common diseases in childhood. Bangkok: Bangkok Wetchasan Printing House; 2006. p.34–47.
2. Hsieh RL, Huang HY, Lin MI, Wu CW and Wen–Chung L. Quality of life, health satisfaction and family impact on caregivers of children with developmental delays. Child Care Health Dev 2008;35:243–9.
3. Parkes J, Caravale B, Marcelli M, Franco F and Colver A. Parenting stress and children with cerebral palsy: a European cross–sectional survey. Dev Med Child Neurol 2011;53:815–21.
4. Tervo RC. Developmental and behavior problems predict parenting stress in young children with global delay. J Child Neurol 2012;27:219–6.
5. Taylor HB, Pallant JF, Law M and Howie L. Predicting mental health among mothers of school–aged children with developmental disabilities: The relative contribution of child, maternal and environmental factors. Res Dev Disabil 2012;33:1732–40.
6. Gau SSF, Chiu YN, Soong WT and Lee MB. Parental characteristics, parenting style, and behavioral problems among Chinese children with Down syndrome, their siblings and control in Taiwan. J Formos Med Assoc 2008;107:693–703.
7. Weiss MJ. Hardiness and social support as predictors of stress in mothers of typical children, children with autism and children with mental retardation. Autism 2002;6:115–30.
8. Lee MY, Chen YC, Wang HS and Chen DR. Parenting stress and related factors in parents of children with Tourett syndrome. J Nurs Res 2007;15:165–73.
9. Larosa AC, Glascoe FP and Macias MM. Parental depressive symptoms: Relationship to child development, parenting, health, and results on parent–reported screening tools. J Pediatr 2009;155:124–8.
10. Baker BL, Blacher J, Crnic KA and Edelbrock C. Behavior problems and parenting stress in families of three–year–old children with and without developmental delays. Am J Ment Retard 2002;107:433–44.
11. Shin JY and Nhan NV. Predictors of parenting stress among Vietnamese mothers of young children with and without cognitive delay. J Intellect Dev Disabil 2009;34:17–26.
12. Norizan A and Shamsuddin K. Predictors of parenting stress among Malaysian mothers of children with Dow's syndrome. J Intellect Disabil Res 2010;54:992–1003.

13. Berry JO and Jones WH. The Parental Stress Scale: Initial psychometric evidence. J Soc Pers Relat 1995;12:463–72.
14. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th ed. Washington DC; 2000.
15. Frankenburg WK, Dodds JB and Fandal A. Denver developmental screening test. Denver CO: Ladoca Publishing; 1975.
16. Frankenburg WK, Dodds J, Archer P, Shapiro H and Bresnick B. Manual for training in early child development testing: Denver II (Thai version), translated by Kotchabhakdi N and Lert–Awasadatrakul O. Nakhon Pathom: National Institute for Child and Family Development, Mahidol University; 1999.
17. Cowan CP and Cowan PA. Who does what when partners become parents: Implications for men, women, and marriage. Marriage and Family Review 1988;12:105–31.
18. Johnston C and Mash EJ. A measure of parenting satisfaction and efficacy. J Clin Child Psychol 1989;18: 167–75.
19. Gibaud–Wellston J and Wandersman LP. Development and utility of the parenting sense of competence scale. Paper presented at the Annual Meeting of the American Psychological Association, Toronto, Canada; 1978.
20. Donenberg G and Baker BL. The impact of young children with externalizing behaviours on their families. J Abnorm Child Psychol 1993;21:179–198.
21. Kotchabhakdi N. Project for indicators developing of family live happily: Final report. Nakhon Pathom: National Institute for Child and Family Development, Mahidol University; 2002.
22. Sherbourne CD and Stewart AL. The MOS Social Support Survey. Soc Sci Med 1991;32:705–14.
23. Jovanova NC and Radojichikj DD. Parents of children with developmental disabilities: stress and support. J Spec Educ Rehabil 2013;14:7–19.
24. Osborne LA and Reed P. Stress and self–perceived parenting behaviors of parents of children with autistic spectrum conditions. Research in Autism Spectrum Disorders 2010;4:405–14.
25. Liu CC, Chen YC, Yeh YP and Hsieh YS. Effects of maternal confidence and competence on maternal parenting stress in newborn care. J Adv Nurs 2011;68:908–18.
26. Bourke J, Ricciardo B, Bebbington A, Aiberti K, Jacoby P, Dyke P et al. Maternal physical and mental health in children with Down syndrome. J Pediatr 2008;15:320–6.
27. Bourke–Taylor H, Pallant JF, Law M and Howie L. Predicting mental health among mothers of school–aged children with developmental disabilities: the relative contribution of child, maternal and environmental factors. Res Dev Disabil 2012;33:1732–40.
28. Feldman M, McDonald L, Serbin L, Stack D, Secco ML and Yu CT. Predictors of depressive symptoms in primary caregivers of young children with or at risk for developmental delay. J Intellect Disabil Res 2007;51:606–19.
29. Tsai MB and Wang HH. The relationship between caregiver's strain and social support among mothers with intellectually disabled children. J Clin Nurs 2009;18:539–48.
30. Pfeifer LI, Silva DBR, Lopes PB, Matsukura TS, Santos JLF and Pinto MPP. Social support provided to caregivers of children with cerebral palsy. Child Care Health Dev 2013;40:363–9.
31. Howie–Davies R and McKenzie K. Diagnosis, information and stress in parents of children with a learning disability. Learn Disabil Pract 2007;10:28–33.