



Early Intervention Screening involves More Than “Simple” Screening

Hui-Chen Lee RN MSN ¹, Zxy-yann Jane Lu PhD RN ², Ming-Lee Yeh PhD RN ¹, Helen Allan PhD PGDE BSc (Hons) RN RNT ³, Shu-Fang Chang PhD RN ¹

¹ Colleges of Nursing, National Taipei University of Nursing and Health Sciences, Taiwan,

² National Yang-Ming, Taiwan, ³ University of Surrey, Taiwan

ABSTRACT

From the perspective of preventive medical discourse, early interventional screening is one of the most important ways to intervene with developmentally delayed children and an important service for children’s public health. However, this paper exposes undisclosed facts from a historical perspective of early developmental screening in the USA and reexamines the concepts of early screening in widespread use in children’s populations, which reminds us of the fact that early developmental screening might not be totally based on children’s needs, but on both the government’s desires and political activities. As a result, a certain population was identified as subjects that required developmental screening, which caused the screened children were enormous. Under those circumstances, developmental screening instruments were used with pediatricians’ individualized appraisals. In order to take the federal budget into account, the government intentionally uses screening for early intervention to actively find at-risk populations who require early intervention. The approach to developmental surveillance is to expand the objects from the children to the parents’ concern. The instrument not only legitimately recruited parents and facilitated parents’ surveillance of their children’s development, but also was a platform for highlighting parent-child interactions. This discussion may help community health nurses further understand different perspectives of early interventional screening in practice.

KEY WORDS

Early intervention screening; Developmental screening instrument; Developmental surveillance; Social construction

©2014, International Journal of Healthcare, Insurance and Equity

All rights reserved.

Correspondence to:

Shu-Fang Chang, Associate Professor, Department of Nursing, College of Nursing, National Taipei University of Nursing and Health Sciences. 365 Ming Te Road, Pei-Tou, Taipei, 112, Taiwan, ROC. TEL : 886(2)28227101 Ext.3109 E-mail : linda@ntunhs.edu.tw

Introduction

From the perspective of preventive medical discourse, early intervention screening (EIS) is an important public health service for children. The purpose of EIS is to improve the detection of developmental delay in children (1). After screening, interventions based on the

EIS are identified and offered to children identified ‘at risk’ and their families. Services such as speech and physical therapies are then provided for children identified with developmental delay or who are at risk of developmental delay (2). The literature on EIS focuses upon the effectiveness of screening (3-5). Currently, a



variety of developmental screening tools are available. Most of them are based on psychometrics and the literature explores the accuracy of these screening instruments (1,6–8). Minimal literature examines EIS in its social and cultural context, that is, as a social construction as opposed to viewing EIS as a taken-for-granted medical technology.

As many as one-half of American children with developmental delay will not be identified by the time they enter kindergarten, even though most will show mild developmental delays by two years of age (9). In EIS, community health nurses (CHNs) are usually the first health professionals who reach families (10). When undertaking EIS, CHNs' major concerns have been the identification of developmental delay cases (11,12). There is no evidence that CHNs reflect on the social construction of EIS, or explore the potential hidden meanings of developmental screening instruments and policies. In this paper, based on the social constructionist perspective, we examine how EIS has emerged as a social policy. We aim to increase CHNs' understanding of the complexities and different perspectives of EIS in practice.

Background

According to the literature, 12 to 16% of children in the United States have at least one developmental delay (9). In Taiwan, EIS has attracted more attention in the Taiwanese literature in the last decade (10). In 1993, early intervention was introduced into Article 2 of the Children Welfare Law where it stated: "An early intervention service should be provided for developmental delay children". In 2003, the seventh By-law of the Children and Youth Welfare Law clearly stated that "provincial county governments shall conduct the EIS in order to find children with developmental delay at an early stage" (10). As a result, EIS has become an important way for children to access early interventions to correct or treat developmental delay.

Currently, in Taiwan the EIS in the public health system is mainly undertaken by CHNs, who focus on how to screen and teach parents to accurately observe and record their children's development (10,13). However, little attention is paid to the meaning of the developmental process. The experiences of EIS in America were primarily applied to

the policy making in Taiwan (14,15). We argue that the major framework of the EIS in Taiwan has been adopted, without critique, from the US. In exploring EIS literature in the Taiwanese context, how EIS has been formed from the western health science knowledge is seldom questioned. Harbers (16) argues that if we neglect the social construction of EIS, then it may be of less use to developing practice in different cultural social contexts. It is therefore necessary to analyze the social construction of EIS in the American context. Through further exploration Taiwanese CHNs will become more sensitive about how culture, society and politics influence health care services.

Social Constructionist View of EIS

One of the most important intellectual foundations of the social construction of illness is the social problems theory and research from the 1960s and 1970s (17). The theoretical stance, social constructionism, means that scientific knowledge is not necessarily independent or objective but is shaped by the social conditions in which scientific inquiry takes place (18,19). It provides a different way of looking at the world, outside the medical scientific paradigm (19,20). From the perspective of preventive medicine, it is taken-for-granted that EIS is an important service in children's health. Medical sciences tend to explain the nature of EIS as a scientific instrument that can objectively measure the developmental progress of children (1). Even though there is some literature that interrogates the quality and effectiveness of EIS (12,21), these views often take for granted that EIS is an entity, an object that can be studied. In contrast, Burr (19) affirms that our understanding of the world is always historical and cultural, and that knowledge itself is the product of society. Therefore, the aim of social constructionist research is to explore how social forces shape our understanding of and actions toward EIS. Guided by social constructionism, we also learn how perceptions of EIS are used to describe and control the social world (18,22).

In the present day, EIS is an integral part of child health surveillance. It is argued that surveillance is free of implications of power in the pursuit of achieving child



health by medical scientific discourse (23,24). Put differently, we may use surveillance through EIS even if it means we increase the numbers of families under surveillance because the overall end is a social good (i.e. at risk children will be identified) (25). However, Harding (26) pointed out that the surveillance is implicated in power relations and is socially constructed. For example, Foucault used the emergence of the panopticon, a prison in 18th century Europe, as a metaphor to illuminate a mode of surveillance. In the panopticon, all prisoners in cells are scrutinized all the time; the prisoners internalize the controlled gaze, while being under an external gaze. These internal and external forms of surveillance mean that the prisoners control and monitor themselves (27).

Foucault's view of surveillance and the panopticon can help us re-examine EIS, because CHNs are often the professionals who undertake and promote EIS policies uncritically. When we encourage all children to regularly receive EIS, we should be thinking whether the technology of EIS may unnecessarily bring children into the system of surveillance (27). Seeing the potential effects of surveillance on children in this way allows us to critique whether EIS is only a tool for preventing disease. According to Burr (28), the analytic position of social constructionism described in this paper does not mean "you have to abandon traditional theory". Social constructionism is, however, a useful starting point to explore the effects of EIS from an alternative perspective and to re-examine the political drive in the employment of surveillance technologies.

DISCUSSION

The origin of EIS

According to early literature, the developmental assessments usually referred to children with cerebral palsy and mental retardation. The physicians made a diagnosis by observing children's motor and language skills. In order to make the "correct" assessment and diagnosis, and to identify how these diseases could affect children's development, physicians were required to use their experience without additional assessment tools (29).

In 1960s, President Kennedy, who had a younger sister with mental retardation, pushed the issues related to these children to the frontline for the U.S. government. The President's Panel on Mental Retardation pointed out that between 75 and 80% of children had mild mental retardation and that its main causes were inadequate stimulation in early childhood (30). In addition, the health of future generations appeared important at that time because of the political tension between the US and the Soviet Union (31). Therefore, the US was open to methods that could increase the children's cognitive development. Scholars emphasized that a favorable environment could enhance the child's cognitive development (31).

In that social climate, parents—especially those in the middle class—commonly emphasized the importance of the child's cognitive development and tried all methods to help promote this goal (30,31). This was difficult for poor families who had economical restrictions to provide their children with adequate stimulation. Such "cultural deprivation" caused by poverty came to be considered as the major reason for mentally retarded children (32). In order to find further cases that were often hidden, various developmental screening instruments for finding the children in need were developed. Meanwhile, scholars began to question the existing children's developmental appraisals, thinking that such an approach lacked standardized tests, and that even the developmental assessment made by doctors was not objective (33). They subsequently concentrated on the development and use of screening instruments. For example, the Denver Developmental Screening Test (DDST), developed by Frankenburg et al., was for early detection of children's development problems, and to distinguish congenital or acquired mental retardation children.

At the same time, America was facing financial crisis from its involvement in the Vietnam War. The Office of Economic Opportunity (OEO) was mainly responsible for pushing the "War on Poverty", which was expected to reduce the rate of poverty in America. In 1964, in order to keep governmental financial supports continuing and to help unemployed teachers get jobs in the following years, the OEO utilized the redundant budget for the "Head Start" program (31). The Head Start program



focused on improving the academic performance and cognitive development of poor children by providing sensory and motor stimulation. Due to their advocacy of Head Start, the authorities began to emphasize the importance of EIS (34). The project was actually attributed to President Johnson as he thought that the project could earn more public acceptance than other projects of the War on Poverty (31).

President Johnson stated that children who were at risk or suffering from health or developmental problems had to be screened and treated (35). In 1967, the project of Early Periodic Screening, Diagnosing and Treatment (EPSDT) was officially implemented. It provided preventive care for Medicaid-eligible children in areas such as vaccination, eyesight testing and developmental screening. The DDST was used by trained professionals as a developmental screening instrument to assess children's development in cognitive, motor, and language areas (36). It was viewed as an effective and standardized screening instrument among populations with a high incidence of acquired mental problems (34). In order to meet the aim of the project, a great numbers of poor children were recruited to receive EIS.

We argue that the rise of EIS in the US not only occurred from a concern with children's health needs, or a concern with poverty, but also was due to political and social interest. Preventive programs aimed at the children of poor families become the strategy of the President's interest, transferring the focus of poverty caused by war. The more the children in need were screened and treated, the more the President's efforts on solving the poverty issues were visible. In addition, the idea of cultural deprivation was not only the etiology of mental retardation in children, but also reflected the country's expectations of family. Families were expected to provide stimulating environments in order to their support children's learning needs. Children from poor families were labeled as disadvantaged and in need of help. The EIS emerged out of an understanding that mental retardation was congenital or acquired; however, it also served to distinguish disadvantaged families from middle-class families and to make disadvantaged families the subjects of the screening. This reality was not explicitly recognized in policy or practice. Thereby, the

EIS helped to construct and maintain a dominant ideology of family.

The expansion of the EIS

The expensive use of EIS was due to the development of its screening instruments, its promotion by the medical sector, and because of the political climate in which the EIS was addressed. In 1986 President Reagan issued the "All Handicapped Children Act Amendments (P.L. 99-457), which was not only followed by P.L.94-142 Law (Education for All Handicapped Children), but gave incentives to encourage each state government to provide early intervention services including EIS, referral and treatment for infants and young children with or at risk for developmental disability (37,38).

The P. L.94-142 was previously mainly for those children who had a physical disability or disorder in learning or cognition. Meisles (39), however, warned that some disabilities cannot be recognized until a later age or until the children are old enough to go to school. McLean et al. (37) also addressed these categories of disability in P.L.94-142 by stating that they were not appropriate for very young children. Consequently, in order to meet the requirements of P.L. 99-457 timely and to obtain continuous federal financial support, state governments expanded the categories of disability to include developmental delay (37). In this way, more infants, young children and children at risk who would not have been eligible in the past could now receive early intervention services.

As a consequence, the expansion of screening categories brought the pediatricians more challenges. The major difficulty was that physicians were unable to make accurate judgments about the children with developmental delay (40). There were few pediatricians with sufficient training in recognizing child development issues (23), but who were more likely to identify those children with severe or obvious developmental problems (40). Most younger children with developmental delay or who were at risk were therefore not easily identified in routine pediatric examination (41). The EIS therefore appeared to be the most appropriate way to recruit new intervention targets to both identify children at risk, and to comply with policy responsibilities and requirements (24). A wide variety of developmental instruments for



screening of infants and young children were produced in managing the new morbidities (23). They did not only effectively screen children with developmental delay but also forced healthcare workers to focus on more research-based signs of children's developmental delay and to enhance their awareness of developmental delay (11).

In effect, the evaluation of the EPSDT project indicates that EIS was not reliable because only 1% of poor children under the age of six could be identified and referred after EIS (21). Such results were criticized as under-estimating the prevailing rate of children with developmental problems, which did not conform to the public discourse on the causes of developmental delay (i.e. poverty) (21,42). This inconsistency stimulated researchers' interests in exploring the reasons for such results. Their explanations included a lack of training for EIS and a lower participation rate among children with developmental problems identified by EPSDT. Another given reason was the lower sensitivity instrument, DDST, which failed to identify a high proportion of children who were at risk for developmental problems (21). Unexpectedly, Dworkin (23) publicly expressed that most developmental screening instruments were not effective. Meisels (43) also clearly noted that although there were many children receiving EIS, few screening instruments were effective. Ironically, the government enforced the EIS as a formal policy and even implemented it before the effective instruments appeared.

Our analysis of the literature suggests that the development of EIS is a social construction rather than an objective state of affairs. Harding (26) argued that certain practices are socially created and they are sustained by social practice and become taken-for-granted and therefore remain unexamined. In this case, economic factors were important drivers for the authorities to encourage the introduction of EIS; this has been unacknowledged in the literature or in policy and practice. The implementation of EIS not only produced a highly condensed picture of a child's developmental state, but also encouraged healthcare workers to focus on children with "expected" developmental delay. In this way, EIS (the screening) actively expanded the group of at-risk children needing early intervention. In addition, we also find the screening instruments cannot prove the

causes of developmental delay as the scientific nature of instruments is shaped by concerns that reflect social discourses. We argue that screening instruments are not only a scientific tool but serve to "prove" the validity of social discourse around children in poverty.

From screening children to parents

Although the ineffectiveness of developmental screening instruments has been questioned, EIS is still promoted as a public health policy. Dworkin (23) stated that eliminating such screening may delay the identification of developmental problems. In order to effectively screen children with developmental delay and children at risk, and to fulfill the policy agendas, aspects of children's social contexts also had to be evaluated as well as their current developmental status (23). As a result, children experiencing any condition which threatened their development needed to be scrutinized, especially those who were reared in a disadvantaged environment. Children from groups of the poor, people of lower social and economic status, Afro-Americans, Hispanics, American Indians, single parents and so on, have become the high risk group for developmental delay (44).

The British Joint Working Party and AAP stated that a single screening cannot fully reflect the real development of children and recommended developmental surveillance as an effective way for early identification of children's developmental problems and those at risk (23). Developmental surveillance includes developmental screening, child observations, and the identification of parental concerns (45). In this way EIS, as part of developmental surveillance, is intended to enhance the precision of the developmental surveillance process.

A successful developmental surveillance is determined by an ongoing monitoring process. How can healthcare workers carry out this continuing watching in clinical practice? Glascoe (46) stated that the purpose of developmental surveillance was to help parents become observers of their children's development. In order to save the professional time, parental involvement in assessing children's development is now emphasized. The instruments based on parental reports are increasingly applied in the screening of children's development (24).



Using the parental report instruments, parents are forced to express their concerns about their children, and required to keep alert to any development delay in order to complete a report (47). One of the specific goals of PL 99–457 is to enable parents to acquire an understanding of the stages of children’s development (23). Thus, screening instruments using the parents’ trained assessment skills have become the technology to demonstrate how to observe children’s development and to meet policy agendas. In addition, completing the reports can also reflect the parents’ status and their interaction with children. As Glascoe (47) pointed out, when parents have mental or psychological diseases, or when they seldom interact with children, they are unable to finish these reports. Consequently, both children and parents became the observing focus in the EIS. In addition, the parental report instruments can be undertaken via the internet, telephone, and mail and reported to CHNs (48). Thus, the EIS creates a self-monitoring atmosphere that realizes Foucault’s panopticon through the internalized and externalized gaze (27).

Through the expanded EIS program, at-risk children enter into the intervention service earlier than was previously intended. Many children received EIS, parents entered into surveillance, and parenting started being transformed; even if their very diagnoses were also suspect and intervention service had not yet received approval. The transforming process included watching, observing, alerting and reporting the development of their children, steps that were previously conducted by health professionals. As Wanger et al. (11) affirmed, if parents do not do such kinds of “work,” the report cannot be completed when the screening is undertaken. In addition, by using the screening instruments parents began to accept the professional discourse and agree more with the intervention services (49). This is concerning when we know that within the area of children’s development there is tension between the opinions of professionals and parents (50). We argue that the use of parental reports in EIS diminishes the validity of the different parental discourses around child health. We agree with Lantz and Booth (18) who point out that such kinds of surveillance are another form of social control. Thus EIS not only legitimizes calls on parents to

become the monitors of children’s development, but also may serve as tools of social control for parents.

CONCLUSION

This paper has explored a special viewpoint regarding EIS by reviewing the development of its history in the US. We have argued that the rise of EIS was not a “simply” advancement of medical knowledge and techniques; it was shaped by historical and cultural factors. Tseng (51) stated that the meaning of EIS is shaped and experienced in different cultural and historical contexts. The political concerns of President’s interest and government budgets were an important driver for the authorities to encourage the introduction and expansion of EIS. Therefore, the needs of EIS were socially constructed.

Social constructionists stress that social processes, beliefs, and actions are associated with power relationships (18,19). If we examine what kinds of people are viewed as socially problematic, frequently these people belong to groups with less power (19). The current approach to developmental surveillance has consequently expanded the population of at-risk children to be surveilled (51). Through EIS, children are forced into the visible position and the EIS becomes a professional gaze on children’s experiences, like a panopticon. Furthermore, developmental surveillance extended the subjects being screened from children to also include their parents. These parental report screening instruments effectively guided parents to play the role of monitors for their children’s development. This process enhanced parents’ knowledge and understanding of children’s developmental health but, at the same time, the interaction between parents and children also transformed under the gaze of health professionals. In this way, early interventional screening is more than “simply” screening.

Relevance to Clinical Practice

Guided by the perspective of social constructionism, we reconsider the hidden meaning of EIS, and highly recommend that CHNs express their social and political sensitivity in their professional field. CHNs should judge whether the screening really meets children’s needs or



just fulfills the demand of the authorities, while trying to increase the screening rate. In addition, many countries, such as Taiwan, are deeply influenced by the experiences of the US, without considering the historical background of the policy that they follow. The EIS is a typical example that reminds Taiwanese CHNs to gain a comprehensive understanding before implementing it as health policy.

DISCLOSURE

The authors report no conflicts of interest in this work.

REFERENCES

1. Rydz D, Shevell MI, Majnemer A, Oskoui M. Developmental screening. *J Child Neurol*. 2005 Jan;20(1):4-21. PMID: 15791916
2. Gwynne K, Blick BA, Duffy GM. Pilot evaluation of an early intervention programme for children at risk. *J Paediatr Child Health*. 2009 Mar;45(3):118-24. PMID: 19210601
3. Hertzman C, Wiens M. Child development and long-term outcomes: a population health perspective and summary of successful interventions. *Soc Sci Med*. 1996 Oct;43(7):1083-95. PMID: 8890409
4. Sonnander K. Early identification of children with developmental disabilities. *Acta Paediatr Suppl*. 2000 Sep;89(434):17-23. PMID: 11055313
5. Hix-Small H, Marks K, Squires J, Nickel R. Impact of implementing developmental screening at 12 and 24 months in a pediatric practice. *Pediatrics*. 2007 Aug;120(2):381-9. PMID: 17671065
6. Glascoe FP, Martin ED, Humphrey S. A comparative review of developmental screening tests. *Pediatrics*. 1990 Oct;86(4):547-54. PMID: 1699200[
7. Lee LL, Harris SR. Psychometric properties and standardization samples of fourscreening tests for infants and young children: a review. *Pediatr Phys Ther*. 2005 Summer;17(2):140-7. PMID: 16357664
8. Brothers KB, Glascoe FP, Robertshaw NS. PEDS: developmental milestones—an accurate brief tool for surveillance and screening. *Clin Pediatr (Phila)*. 2008 Apr;47(3):271-9. PMID: 18057141
9. Mackrides PS, Ryherd SJ. Screening for developmental delay. *Am Fam Physician*. 2011 Sep 1;84(5):544-9. PMID: 21888305
10. Huang PH. The development and current situation of the early intervention for children with developmental delay in Taiwan. *International Journal of Child Care and Education Policy*. 2007;1(1):45-58.
11. Wagner J, Jenkins B, Smith JC. Nurses' utilization of parent questionnaires for developmental screening. *Pediatr Nurs*. 2006 Sep-Oct;32(5):409-12. PMID: 17100071
12. Ahsan S, Murphy G, Kealy S, Sharif F. Current developmental surveillance: is it time for change? *Ir Med J*. 2008 Apr;101(4):110-2. PMID: 18557512
13. Kuo IL. An Exploratory Study of Developmental Screening Implementation for Infant and Toddler in the Well-Child Clinic (Unpublished Master Thesis). Taipei, Taiwan: National Defense Medical Center; 2004.
14. Hsu CH. Early identification and intervention of children with developmental delay: relevant registrations and official guidelines. *Taiwanese J Psychiatry*. 2003;17:4-13.
15. Chang JH. The new challenge to social work in hospital about alien families and children early intervention in Taiwan. *Community development J*. 2004;105:235-45.
16. Harbers H. Inside the politics of technology: Agency and normativity in the co-production of technology and society. Amsterdam: Amsterdam University Press; 2005.
17. Olafsdottir S. Social Construction and Health: In *Medical Sociology on the Move*. Netherlands: Springer; 2013. p. 41-59.
18. Lantz PM, Booth KM. The social construction of the breast cancer epidemic. *Soc Sci Med*. 1998 Apr;46(7):907-18. PMID: 9541076
19. Burr V. *Social Constructionism*, 2nd ed. London & New York: Routledge; 2003.
20. White DI. The Re-construction of Women's Sexual Lives after Pelvic Radiotherapy (Unpublished PhD Thesis). Guilford, England: University of Surrey; 2008.
21. Meisels SJ. Meeting the mandate of Public Law 99-457: early childhood intervention in the nineties. *Am J Orthopsychiatry*. 1989 Jul;59(3):451-60. PMID: 2475023
22. Chen HC, Allan H, Lu ZY. The social construction of cancer chemotherapy toxicity: the case of Taiwan. *Cancer Nurs*. 2013 Jul-Aug;36(4):E61-7. PMID: 23047801
23. Dworkin PH. British and American recommendations for developmental monitoring: the role of surveillance. *Pediatrics*. 1989 Dec;84(6):1000-10. PMID: 2479904
24. American Academy of Pediatrics. Committee on Children with Disabilities. Developmental surveillance and screening of infants and young children. *Pediatrics*. 2001 July;108(1):192-5.
25. Screening infants and young children for developmental disabilities. American Academy of Pediatrics Committee on children with disabilities. *Pediatrics*. 1994 May;93(5):863-5. PMID: 7513080
26. Harding J. Bodies at risk: sex, surveillance and hormone replacement therapy. In: Petersen A, Bunton R editors. *Foucault Health and Medicine*. London and New York: Routledge; 1997. p. 134-150.
27. Cheek J, Rudge T. The panopticon re-visited?: an exploration of the social and political dimensions of contemporary health care and nursing practice. *Int J Nurs Stud*. 1994 Dec;31(6):583-91. PMID: 7896521
28. Burr V. *An introduction to social constructionism*. London and New York: Routledge; 1995. P. 31.



29. Gesell AL, Amatruda CS. *Developmental Diagnosis*. New York: Paul; 1954.
30. Albee GW. Needed-- a revolution in caring for the retarded. *Society*. 1968 Jan;5(3): 37-42.
31. Zigler E, Muenchow S. *Head Start: The Inside Story of America's Most Successful Educational Experiment*. New York: Basic Book; 1992.
32. Huston AC, McLoyd VC, Coll CG. Children and poverty: issues in contemporary research. *Child Dev*. 1994 Apr;65(2 Spec No):275-82. PMID: 7516847
33. Frankenburg WK, Dodds JB. The Denver developmental screening test. *J Pediatr*. 1967 Aug;71(2):181-91. PMID: 6029467
34. Bailey EN, Kiehl PS, Akram DS, Loughlin HH, Metcalf TJ, Jain R, Perrin JM. Screening in pediatric practice. *Pediatr Clin North Am*. 1974 Feb;21(1):123-65. PMID: 4590155
35. Foltz AM. The development of ambiguous federal policy: early and periodic screening, diagnosis, and treatment (EPSDT). *Milbank Mem Fund Q Health Soc*. 1975 Winter;53(1):35-64. PMID: 1040133
36. Dykstra AJ. Michigan's experience in the early and periodic screening, diagnosis, and treatment program. *ANA Publ*. 1975 Apr;(NP-47):43-9. PMID: 1041204
37. McLean M, Smith BJ, McCormick K, Schakel J, McEvoy M. *Developmental delay: establishing parameters for a preschool category of exceptionality*. DEC Position Paper. Reston, VA: Council for Exceptional Children; 1991.
38. Florian L. Part H early intervention program: legislative history and intent of the law. *Topics Early Child Spec Educ*. 1995 Fall;15(3):247-63.
39. Meisels SJ. Can developmental screening tests identify children who are developmentally at risk? *Pediatrics*. 1989 Apr;83(4):578-85. PMID: 2467250
40. Williams J, Holmes CA. Improving the early detection of children with subtle developmental problems. *J Child Health Care*. 2004 Mar;8(1):34-46. PMID: 15090113
41. Glascoe FP, Dworkin PH. Obstacles to effective developmental surveillance: errors in clinical reasoning. *J Dev Behav Pediatr*. 1993 Oct;14(5):344-9. PMID: 7504700
42. Meisels SJ, Margolis LH. Is the early and periodic screening, diagnosis, and treatment program effective with developmentally disabled children? *Pediatrics*. 1988 Feb;81(2):262-71. PMID: 2448736
43. Meisels SJ. Developmental screening in early childhood: the interaction of research and social policy. *Annu Rev Public Health*. 1988;9:527-50. PMID: 2454121
44. Lubeck S, Garrett P. The social construction of the at-risk child. *British Journal of Sociology of Education*. 1990;11(3):327-40.
45. Frankenburg WK. Preventing developmental delays: is developmental screening sufficient? *Pediatrics*. 1994 Apr;93(4):586-93. PMID: 7510874
46. Glascoe FP. Using parents' concerns to detect and address developmental and behavioral problems. *J Soc Pediatr Nurs*. 1999 Jan-Mar;4(1):24-35. PMID: 10334009
47. Glascoe FP. Parents' evaluation of developmental status: how well do parents' concerns identify children with behavioral and emotional problems? *Clin Pediatr (Phila)*. 2003 Mar;42(2):133-8. PMID: 12659386
48. Dobrez D, Sasso AL, Holl J, Shalowitz M, Leon S, Budetti P. Estimating the cost of developmental and behavioral screening of preschool children in general pediatric practice. *Pediatrics*. 2001 Oct;108(4):913-22. PMID: 11581444
49. Squires J, Bricker D. (1991). Impact of completing infant developmental questionnaires on at-risk mothers. *Journal of Early Intervention*. 1991 Spring;15(2):162-72.
50. Kelle H. "Age-Appropriate Development" as measure and norm: an ethnographic study of the practical anthropology of routine pediatric checkups. *Childhood*. 2010 Feb;17(1): 9-25.
51. Tseng FT. *Knowledge and politics of developmental surveillance in Taiwan. Taipei City, Taiwan: National Chengchi University, ROC; 2012.*