

A STUDY ON THE INFLUENCE OF GUARDIANS ON THE ORAL HEALTH STATUS OF CHILDREN: THE RELIABILITY OF GENDER RELATIONS DOMAIN

TC Badaria *, BS Halim **, L Naing ***, NM Ismail ****, AR Ismail *****

ABSTRACT

Introduction: Gender relations between parents or guardians influence the health status of children including oral health. Based on their biological differences, and depending on socio-cultural contexts, parents or guardians differ in their roles, attitudes, beliefs, values and so on in bringing up children. This paper explores the importance of the gender domain in the questionnaire to study the influence of guardians on oral health status of preschool children in Pasir Mas, Kelantan. *Aims:* To assess the reliability of socio-culturally constructed gender relation's domain of an oral health questionnaire. *Methods:* A draft version of a guided questionnaire on oral health containing 120 items was developed by combining information from literature reviews, qualitative interviews on mothers and from discussions with some experts. After preliminary testing, a workshop was conducted for further adjustments before it was piloted among 100 subjects. Item analysis including internal consistency reliability and factor analysis was used to test the reliability and construct validity of the questionnaire. Other domains were; practices, guardians' values, beliefs, attitudes and knowledge on oral health. *Results:* 53 items were selected based on item analysis. The internal consistency reliability of gender relation's domain was found to be 0.70 with selected 9 items, the corrected item-total correlation each item ranging from 0.17 to 0.61. Factor loading gave range of the items from 0.26 to 0.76 under the same component. *Conclusion:* The item analysis suggests that Gender domain in the final version of the questionnaire was fairly good in terms of internal consistency reliability and constructs validity.

Keywords: Gender, influence, guardians, preschool children

INTRODUCTION

Children depend on their adults for most of decision-making in their early life. These adults are usually the parents or guardians, be they biological or non-biological ones. Gender is not just the sex differences between men and women, i.e. physical or biological differences, but also the differences in important aspects of behavior, attitudes and abilities between them (Caplan and Caplan, 1994). Most cultures determine that mothers are responsible for fulfilling most of the children's needs (Caplan and Caplan, 1994, Goldfield *et al.*, 2003). In some cultures, mothers are expected to discuss family events or incidents with dominant family members, usually husbands, or sometimes mothers, mother-in-laws or other significant family member available (Mamat, 1991). Based on the men and women's biological differences,

and depending on socio-cultural contexts, parents or guardians differ in their roles, attitudes, beliefs, values and so on in bringing up children. This gender related differences between parents or guardians influence the health status of children including oral health. This paper will explore the importance of the gender domain in the oral health questionnaire constructed to study the influence of guardians on oral health status of preschool children in Pasir Mas, Kelantan. Guardians in this study include the female and male adults if the children involved were under their custody.

LITERATURE REVIEW

Men and women

There are two major wrong assumptions that had always muddied the understanding of research on sex differences:

1. The usual assumption is gender stereotyping.

In reality, females' and males' scores or behaviors overlap a great deal. According to most researches, the commonly called *sex difference* is the difference between the *average score* of the women in the study and the *average score* of the men in the study. Most individuals, women and men do not have scores (or behavior) exactly the same

* Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia
** Associate Professor, Sociologist and Lecturer, Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia
*** MD, PhD, Biostatistician and Lecturer, School of Dental Sciences, Universiti Sains Malaysia
**** BDS, Oral Health Lecturer, School of Dental Sciences, Universiti Sains Malaysia

as the average score of their sex (Lippa, 2003, Goldmann and Hatch, 2000, Adda *et al.*, 2003, Albrecht *et al.*, 2000). This means that we cannot predict how any individuals will behave even if we know the person's sex.

2. The second usual assumption is that sex differences are biologically based and therefore inevitable and unchangeable. It is now proven that this is an unfounded assumption. Many differences between men and women resulted from different ways of the boys and girls were raised. Even differences that may have some biological basis had been shown to be fairly easy to modify (Singh and Kulathinal, 2000, Swanson and Vacquier, 2002, Civetta and Singh, 1999, Charlesworth *et al.*, 1987). It is now common knowledge that chemical processes can change the genes. The genes determined the sexes. In most culture, people assume that there are only two sexes. In fact's that more than two genetic sex types can also occur (S.A.Berenbaum and Bailey, 2003, Rahman and Wilson, 2003, Hrabovszky and Hutson, 2002). So gender actually refers to the *social role* of being a woman or a man, which is determined by the society we live in. Gender composed of the whole list of features that the society in question labels as appropriate for one sex or the other; including the feelings, attitudes, behavior, interests, clothing and so on (Goldmann and Hatch, 2000, Caplan and Caplan, 1994).

METHODOLOGY

A draft version of a guided questionnaire on oral health containing 120 items was developed by combining information from literature reviews, qualitative interviews on mothers and from discussions with some experts. After preliminary testing, a workshop was conducted for further adjustments before it was piloted among 100 subjects. Item analysis including internal

consistency reliability and factor analysis was used to test the reliability and construct validity of the questionnaire. Other domains included in the questionnaire were practices, guardians' values, beliefs, attitudes and knowledge on oral health. The oral health questionnaire was used as a guide to ask the guardians with regards to children's oral health directed and related practices including estimation of frequency of sugary dietary intakes, the guardians' values, beliefs, attitude towards oral health of the children, guardians' knowledge about children oral health and gender related practices of the guardians (i.e., gender domain) impinging on oral health of the children. After the pilot study, which was done on part of the sample population, item analysis using SPSS software was carried out to assess the reliability and validity of the domains including the gender issue domain.

RESULTS

Out of the initial 120 items, finally 53 items were selected based on the item analysis. The internal consistency reliability of gender relation's domain was found to be 0.70 with 9 selected items and the corrected item-total correlation of each item ranging from 0.17 to 0.61. Factor loading of the gender domain gave range of the items from 0.26 to 0.76, which all items fall under one factor. The internal consistency reliability of other domains i.e., practices, guardians' values, beliefs, attitudes and knowledge with selected items were 0.59, 0.77, 0.61, 0.74, and 0.53 respectively.

CONCLUSION:

The reliability tests result of 0.70 and the factor loadings range of 0.26 to 0.76 of each item using the Varimax rotation method for the gender domain suggested that gender domain was appropriate to be as one part of the questionnaire on the oral health of preschool children.

Table 1.1: Results Of Factor Analysis And Reliability Tests On 100 Subjects

Domain	Sub domain	No. of items selected	Cronbach Alpha	Factor loadings; Rotated component matrix (loaded on 7 factor)
Practice		14	.59	
	- Dietary meals	6		0.11 - 0.60 (F1)
	- Parental practice on child oral health	3		0.63 - 0.85 (F2)
	- Child's oral health practice	5		0.39 - 0.76 (F3)
Value		6	.77	0.37-0.79
Belief		6	.61	0.22 - 0.48
Attitude		10	.74	0.12 - 0.68
Knowledge		8	.53	0.17 - 0.58
Gender*		9	.70	0.26 - 0.76
Total items		53		

REFERENCES

- Adda, J., Chandola, T. & Marmot, M. (2003). Socio-economic Status and Health: Causality and Pathway. *Journal of Econometrics*, 112, 57-63.
- Albrecht, G. L., Fitzpatrick, R. & Scrimshaw, S. C. (Eds.) (2000) *Handbook of Social Studies in Health and Medicine*, SAGE Publications, London.
- Caplan, P. J. & Caplan, J. B. (1994) *Thinking Critically About Sex and Gender*, Harper Collins College Publishers, Toronto.
- Charlesworth, B., Coyne, J. A. & Barton, N. (1987). The relative rates of evolution of sex chromosomes and autosomes. *Am. Nat.*, 140, 126-148.
- Civetta, A. & Singh, R. S. (1999). Broad-sense sexual selection, sex gene pool evolution, and speciation. *Genome*, 42, 1033-1041.
- Goldfield, S. R., Wright, M. & Oberklaid, F. (2003). Parents, Infants and Health Care: Utilization of Health Services in the first 12 months of life. *J. Paediatr. Child Health*, 39,249-253.
- Goldmann, M. B. & Hatch, M. C. (Eds.) (2000) *Women and Health*, Academic Press,USA.
- Hrabovszky, Z. & Hutson, J. M. (2002). Androgen imprinting of the brain in animal models and humans with intersex disorders: review and recommendations. *J Urol.*, 168, 2142-2148.
- Lippa, R. A. (2003). Handedness, sexual orientation, and gender-related personality traits in men and women. *Arch Sex Behav.*, 32, 103-114.
- Mamat, R. R. R. (1991) *The Role And Status Of Women In Malaysia : Social And Legal Perspectives*, Dewan Bahasa Dan Pustaka, Kuala Lumpur.
- Rahman, Q. & Wilson, G. D. (2003). Sexual orientation and the 2nd to 4th finger length ratio: evident for organizing effects of sex hormones or developmental instability? *Psychoneuroendocrinology*, 28, 288-303.
- S.A.Berenbaum & Bailey, J. M. (2003). Effects on gender identity of prenatal androgens and genital appearance: evidence from girls with congenital adrenal hyperplasia. *J Clin Endocrinol Metab.*, 88, 1102-1106.
- Singh, R. S. & Kulathinal, R. J. (2000). Sex gene pool evolution and speciation: a new paradigm. *Genes Genet. Syst.*, 75, 119-130.
- Swanson, W. J. & Vacquier, V. D. (2002). The rapid evolution of reproductive proteins. *Nat. Rev. Genet.*, 3, 137-144.