

The Risk Demographic Predictors of Low Health Promotion Lifestyles in Family Caregivers of Children with Disabilities

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outline

- Background
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Background

- ❑ Global figures estimate that 200 million children experience some form of disability(UNESCO, 2010).
- ❑ In U.S.,13.9% of children have special health care needs and that 21.8% of households with children include at least one children with special health care needs (U.S. Department of Health & Human Services, 2008).
- ❑ In Taiwan, the prevalence of disabled population is 4.81% and 1.14%(28,360 persons) of disabled children under 12 years(Taiwan MHW,2014).

- Having a child with disabilities poses significant stress or loadings for parents or family primary caregivers who provide daily care to the children.
- Attention to health promotion would seem to contribute to the health and well-being of caregivers.
- Studies less used in family primary caregivers of children with disabilities and explored the risk demographic predictors of health promotion lifestyles deficiency.
- If we can early find the risk groups and provide the health promotion information and interventions to improve their health and well-being.

Literature review

- ❑ The stress and loadings in family primary caregivers of disabled children
- ❑ The health status and health promotion lifestyle in family caregivers of disabled children
- ❑ The relation of demographic factors and health promotion lifestyle

Aims

- The aim of this study is to investigate the risk demographic factors is related to the low Health Promotion Lifestyles scale and subscales scores in family primary caregivers of disabled children.

Hypothesis

- ❑ Family caregiver who were male, old age, low education, no married, low income, urban will have higher ratio than others in low health promotion lifestyles scales.
- ❑ Multiple demographic factors will predict low health promotion lifestyle scale and subscale groups.

Methods

□ Design

- Quantitative research
- Secondary data study from previous research
- Cross-sectional descriptive approach
- Comparative designs

□ Samples/ Participants

- Convenience sampling
- Family caregivers of children about
 - ADHD
 - Muscular dystrophy
 - Chromosome abnormal
 - in the department of pediatric psychology and hereditary counseling and a setting of Taiwan muscular dystrophy association at southern Taiwan.

□ Included subjects:

- age ≥ 20 yrs
- family primary caregiver(parent, grandparent, and other families)

□ Exclude subjects:

- age < 20 yrs
- can't talk with Chinese or Taiwanese.

□ Total participants in this study is 251 persons.

□ Measure / Instruments

- Health Promotion Lifestyle Profile(HPLP) in Chinese version: original instrument was agreed to use from Chen (1997) revised
- HPLP scale include six subscales of nutrition, exercise, health responsibility, stress management, social support and life appreciation.
- This instrument has 40 items, use Liker scale 1~5, total score from 40 to 200, the higher the score the better health behaviors.

Table 1.

The scores and internal consistency reliability of HPLP and subscales (n=251)

Subscale	Item number	Total score	Min ~ Max score of subscale	Mean of subscale (SD)	Min ~ Max score of item	Mean of item score(SD)	Cronbach's Alpha 值
Nutrition subscale	6	30	9~30	22.57(34.30)	1.50~3.76	3.76(0.72)	.78
Exercise subscale	5	25	5~25	12.71(4.66)	1.00~5.00	2.54(0.93)	.86
Health responsibility subscale	8	40	9~39	27.35(6.32)	1.13~4.88	3.43(0.79)	.84
Stress management subscale	6	30	6~30	20.98(4.23)	1.00~5.00	3.50(0.71)	.76
Social support subscale	7	35	11~35	25.80(4.90)	1.57~5.00	3.68(0.70)	.85
Life appreciation subscale	8	40	11~40	29.14(6.28)	1.38~5.00	3.64(0.79)	.92
Overall HPLP scale	40	200	67~194	138.53(23.74)	1.62~4.85	3.43(0.59)	.95

□ Statistics Analysis

- Statistics Package for Social Scientists (SPSS) 19.0 soft wave.
- Baseline characteristics were examined by chi-square test.
- Descriptive statistics for basic data analysis: mean and standard deviation(SD): age, total HPLP, scores of six HPLP's subscale, each item scores of six HPLP's subscale, Mental Health scores, Depression scores, Anxiety-Depression scores).

- ❑ Chi-square were used compare the categorical variables: sex, income, marital status, education level, location in three disease groups and shown by P-value.
- ❑ Pearson correlation is used to test the relevance of all scales and subscales.
- ❑ Univariate analyses of variance were performed with respective baseline scores as covariates.
- ❑ While adjusting for other effects in the multiple logistic regression model by stepwise selection to compare the low and high HPLs scores groups from demographic factors.

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- ❑ Avoiding collinearity, we calculated centering and mean-centering data for some continue variables (age, all scales' scores).
 - ❑ In order to run logistic regression, we divided HPLP and all subscale into low score(<25%tile) and high score(\geq 25%tile) groups.

□ Dummy variables:

- sex(female=1, male=0)
- marital status(married=1, no married=0)
- location(Rural and town=1, urban=0)
- education level(reference variable is graduate degree)
- monthly income(reference variable is > 50000 NT dollars)
- Health promotion lifestyle scale and subscale(low score group=1, non-low score =0)

Results

- ❑ Basic data in table 2 presents descriptive and group comparisons.
- ❑ Table 3 presents prevalence of health promotion lifestyles in study participants.
- ❑ Demographic factors predicting low health promotion lifestyles group among family primary caregivers of disabled children.
- ❑ Table 4~table 10 present the modal of predictors in low health promotion lifestyle

Table 2.

Demography characteristics in study participants

Variable / Item		Disease Type								Chi-square p-value
		Total		ADHD		Muscular dystrophy		Chromosome abnormal		
		n	%	n	%	n	%	n	%	
Age		251		108		92		51		
	Mean(SD)years	43.05		40.67		45.12		44.35		
	/min~max	(7.62)	20~64	(5.91)	26~59	(8.70)	20~64	(7.49)	24~61	
Age level	< 40 years	80	31.87	43	39.81	21	22.83	16	31.37	.04
	>=40 years	171	68.13	65	60.19	71	77.17	35	68.63	
Gender	female	172	68.53	83	76.85	58	63.04	31	60.78	.05
	male	79	31.47	25	23.15	34	36.96	20	39.22	
Education	graduate degree	43	17.13	16	14.81	15	16.30	12	23.53	.04
level	bachelor degree	64	25.50	29	26.85	18	19.57	17	33.33	
	high school	101	40.24	50	46.30	35	38.04	16	31.37	
	Under junior high school	43	17.13	13	12.04	24	26.09	6	11.76	
Marital	married	217	86.45	95	87.96	76	82.61	46	90.20	.37
status	no married	34	13.55	13	12.04	16	17.39	5	9.80	
Monthly	> NT 50000	124	49.40	51	47.22	36	39.13	37	72.55	<.01
income	NT30000~50000	64	25.50	24	22.22	30	32.61	10	19.61	
	< NT 30000	63	25.10	33	30.56	26	28.26	4	7.84	
Location	urban	91	36.25	29	26.85	48	52.17	14	27.45	<.01
	rural and town	160	63.75	79	73.15	44	47.83	37	72.55	18

Table 3
Prevalence of health promotion lifestyles in study participants

Variable / Item			Disease Type								
			Total		ADHD		Muscular dystrophy		Chromosome abnormal		Chi-square p-value
			n	%	n	%	n	%	n	%	
Group scores			251		108		92		51		
Nutrition subscale	low score	< 20	58	23.11	27	25	24	26.09	7	13.7	0.2
	non-low score	>= 20	193	76.89	81	75	68	73.91	44	86.27	
Exercise subscale	low score	< 9	52	20.72	16	14.81	26	28.26	10	19.61	0.06
	non-low score	>= 9	199	79.28	92	85.19	66	71.74	41	80.39	
Health responsibility subscale	low score	< 23	60	23.9	29	26.85	27	29.35	4	7.84	0.01
	non-low score	>= 23	191	76.1	79	73.15	65	70.65	47	92.16	
Stress management subscale	low score	< 18	45	17.93	22	20.37	20	21.74	3	5.88	0.04
	non-low score	>= 18	206	82.07	86	79.63	72	78.26	48	94.12	
Social support subscale	low score	< 23	61	24.3	24	22.22	29	31.52	8	15.69	0.09
	non-low score	>= 23	190	75.7	84	77.78	63	68.48	43	84.31	
Life appreciate subscale	low score	< 25	53	21.12	29	26.85	20	21.74	4	7.84	0.02
	non-low score	>=25	198	78.88	79	73.15	72	78.26	47	92.16	
Overall Health promotion lifestyle scale	low score	<123	61	24.3	27	25	29	31.52	5	9.8	0.02
	non-low score	>=123	190	75.7	81	75	63	68.48	46	90.2	

Notes: Low score group < 25 percentile, Non-low score group >=25 percentile.

Table 4

Comparison of low and high overall HPL scale score in study participants

Variables	Item	Low score HPL		High score HPL		OR	95% CI		
		n	%	n	%		lower	upper	P-value
Total		61	100	190	100				
Education	Graduate degree	6	9.8	37	19.47	1			
	Bachelor degree	10	16.4	54	28.42	1.40	0.44	4.41	0.57
	High school	26	42.6	75	39.47	2.32	0.83	6.50	0.11
	Under Junior high school	19	31.15	24	12.63	5.18	1.69	15.85	<0.01
Marital	Married	44	72.13	173	91.05	1			
	No married	17	27.87	17	8.95	4.81	2.13	10.86	<0.01
Location	Ural and town	29	47.54	131	68.95	1			
	Urban	32	52.46	59	31.05	2.4	1.27	4.54	<0.01

HPL= Health promotion lifestyle scale, total score=200, mean=138.53±23.74, min to max=67~194,

Low score HPLS: < 25 percentile of score, score < 123; High score HPLS: >= 25 percentile, score >= 123.

Overall prediction accuracy is 79.3%.

Table 5.

Comparison of low and high subscale score by logistic regression(I)

Subscale		Low score group		Non-low score group		OR	95% CI		P-value	Prediction accuracy
Variables	Item	n	%	n	%		lower	upper		
Nutrition subscale										
Monthly income		58		193						
	> NT 50000	17	29.31	107	55.44	1				
	NT30000~50000	16	27.59	48	24.87	2.1	0.98	4.5	0.06	76.90%
	< NT 30000	25	43.1	38	19.69	4.14	2.02	8.5	<.001	
Stress management subscale										
Monthly income		45		206						
	> NT 50000	13	28.89	111	53.88	1				
	NT30000~50000	17	37.78	47	22.82	2.668	1.18	6.036	0.02	82.10%
	< NT 30000	15	33.33	48	23.3	3.088	1.39	6.864	<.01	
Life appreciate subscale										
Monthly income		53		198						
	> NT 50000	20	37.74	104	52.53	1				
	NT30000~50000	11	20.75	53	26.77	1.08	0.48	2.42	0.85	78.90%
	< NT 30000	22	41.51	41	20.71	2.79	1.38	5.65	<.01	21

Table 6.

Comparison of low and high subscale score by logistic regression (II)

Variables	Item	Low score Nutrition		High score Nutrition		OR	95% CI		P-value	Prediction accuracy
		n	%	n	%		lower	upper		
Exercise subscale										
Marital status	Married	52		199		1				
	No married	40	76.92	177	88.94	2.64	1.18	5.9	0.02	
Location	Rural and town	12	23.08	22	11.06	1				78.90%
	Urban	24	46.15	136	68.34	2.65	1.41	4.99	<.01	
Health Responsibility subscale										
Gender	Female	60		191		1				
	Male	33	55	139	72.77	2.13	1.16	3.91	0.02	
Location	Rural and town	27	45	52	27.23	1				76.10%
	Urban	29	48.33	131	68.59	2.28	1.25	4.15	0.01	
Social support subscale										
Marital status	Married	61		190		1				
	No married	46	75.4	171	90	2.94	1.39	6.22	<.01	75.50%

Conclusion and Discussion

- ❑ The implications in clinic practice, the caregivers of children with disabilities those who are lower income, no married, male, lower education level and living in urban must be provided support and intervention for nutrition, exercise, stress management, social support, health responsibility, and life appreciation.
- ❑ We can early predict high risk democratic groups of family caregivers in low health promotion lifestyles, then provide the interventions of life appreciation and stress management for caregivers to improve their quality of life.

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Thank you for your attention!!

