Ambient Science, 2016: Vol. 03(Sp1); 45-49
DOI:10.21276/ambi.2016.03.sp1.ra06

Published by: National Cave Research and Protection Organization, India

ambient
SCIENCE
Vol. 3(Sp1):45-49
Year 2016

RESEARCH ARTICLE

The Role of Motivational Interviewing in Depression and Psychological Well-Being in Mothers of Students Having Learning Disabilities

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Study Area: Ardabil, Iran
Coordinate: 38°15'N; 48°17'E

Key words: Exceptional child, Depression, Stress physiology

Abstract

The effects of motivational interviewing on the minimising of depression symptoms and improvement of psychological well-being among mothers of students having learning disabilities were studied. The methodology was based on the comparison of pretest-posttest Vs control-groups. The statistical data included all mothers of primary-school students having learning disabilities (50 subjects) and normal students (50 subjects) residing in the city of Ardabil, Iran. Subject selections were made through simple random sampling method and group counselling sessions focused on motivational interviewing were held for the experimental group for total eight "60-minute sessions". The structure of the motivational interviewing sessions was extracted from a prescribed prescript of group therapy. To tabulate the data; Ryff's Scales of Psychological Well-Being, Beck Depression Inventory, and Colorado Learning Difficulties Questionnaire were used. As per the statistical analysis the motivational interviewing can reduce depression symptoms and improve psychological well-being in mothers of students having learning disabilities.

Introduction:

Students having special learning disorders are recently kept in the domain of exceptional children (Saduk & Saduk, 2003). For the first time in the year 1960s, learning disabilities as the most recent sub-category in the area of exceptional children were introduced, although it is the largest category of such group of children. As per an estimation, almost half of the total children, who get enrolled in special education programs, are affected by learning disabilities. There are individuals with learning disabilities at all levels and grades ranging from pre-school to university. The main advantage for the children of primary-school levels is that the emphasis and interest in the identification and treatment of disabilities in such an age group is higher during this period. Therefore, the number of afflicted individuals with such disabilities at higher education level gets gradually decrease (Wallas & McLaflin, 1990). A notable number of families suffer from the negative effects of having disabled children and they need to adapt themselves with the fact that their children have special conditions during their life. Studies have indicated that the negative effects of living with disabilities and retarded conditions in children bring about tension and stress among family members especially in the respective mothers (Tajeri & Bahiraei, 2008), as mothers are the first individuals having direct contacts with their children. Special feelings and emotions such as senses of guilty, failure, and deprivation develop due to the abnormalities in such children can lead to isolation, depression, and in these mothers communications will be reduced in the environment. Such feelings and emotions would also lead to lowered self-esteem, a sense of humiliation, worthlessness, sorrow, and anguish in respective mothers and consequently decline their psychological well-being which results in their reduced self-esteem, depression, and risks to mental health among these mothers (Narimani *et al.,* 2007). Children with disabilities often threaten adjustment as well as physical and mental health in mothers and have negative effects on them (Abolghasemi & Narimani, 2005). There are numerous studies comparing the dimensions of mental health and life satisfaction among mothers of normal children and those of exceptional ones which have exposed the level of social adjustment (Narimani *et al.,* 2006),

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ISSN- 2348 5191 (Print) & 2348 8980 (Electronic)

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mental health (Narimani *et al.,* 2006) and marital satisfaction (Dini-Torki *et al.*, 2007) in mothers of exceptional children which were less than those in mothers of normal ones. Nevertheless, the level of mental signs of stress (Dini-Torki *et al.,* 2007) and the use of emotion-focused coping strategies in dealing with the stress (Rajabi *et al.,* 2009) in mothers of exceptional children were found much higher than those in normal group mothers. However, due to the poor performance or social problems, learning disabilities lead to depression and anxiety. Since 1960, the educational and psychological studies are focusing on investigation of such children who are having learning disabilities as a new category added to the field of special education.

Moreover, other investigations revealed that mothers of children with mental and learning disorders are more engaged with their children's behavioral problems, experiences higher level of stress, tension, and mental health crises and need more supports as compared to the fathers of such children (Eisenhower *et al.,* 2005; Lloyd & Hastings, 2009). Mothers of children having disabilities might be overwhelmed with their children's problems and become worried about their negative feelings towards their inabilities in achieving their goals, and consequently lose their hope (Anderson & Bushman, 2002) which can have the high impact on their entire life. The second variable to consider in examining students having learning disabilities is to investigate their psychological well-being. It refers to a set of factors that are effective in preventing the development or progression in the exacerbation of emotional-cognitive disorders. The concept of psychological well-being includes mental comfort, a sense of self-empowerment, autonomy, competence, understanding of inter-generational solidarity, and recognition of ones' abilities to realize their own intellectual and emotional capacities (Heydari, 2011).

Rosenberg & Welcox (2006); Rubak (2005), and Huppert (2009) in their research studies considered the role of father, children's pre-pubertal experiences with their parents, and children's social environment respectively as the factors affecting children's psychological well-being. Happert (2009) referred that the experience of war through the creation of stress and depression can be considered effective in psychological well-being. Moreover, considerable research evidence showed the role of motivational interviewing and cognitive-behavioral training in the measures of physical and mental health as well as self-care behaviors. Motivational interviewing even in the form of 15-minute short interviews were found to be effective (Navidian, 2009).

Motivational interviewing is an evidence-based approach cum directive to strengthen and enhance intrinsic motivation for change through detection, identification, and resolution of doubt, uncertainty, and ambivalence. The conceptual model of motivational interview has been formed based on the concepts from change process of Prochaska and Diclemente, ambivalent and uncertainty, health beliefs of Roger's protective theory, Janiss and Mann's decisional balance, Brom's reactive theory, Bam's self-perception theory, Kanfer's self-organizing theory, and Rokeach's values theory (Field, 2006). Motivational interviewing is an evidence-based and direct counseling style helping clients to explore and resolve doubts and consequently causes behavioral changes in them. The use of motivational interviewing has spread from addiction to the area of health systems, health promotion, and psychological disorders and recently to the areas of correction and rehabilitation (Cox & Kilinger, 2004). Motivational interviewing is an evidence-based and directive-oriented approach whose fundamentals are based on the patients' participation, call for their intrinsic motivation and respect to their sense of autonomy. In addition to such basics, motivational interviewing stresses on principles such as expressed sympathy increased internal conflict, tolerance, and resistance, as well as supports for a sense of self-efficacy among clients. To invoke intrinsic motivation, counseling techniques such as asking open-ended questions, reflective listening, confirmation, summarization, and call for change-focused talks are applied. Thus, this study was conducted in line with the above-mentioned investigations to address the main research question as follows: Does motivational interviewing have any effect on reducing depression and improving psychological well-being in the mother of students having learning disabilities?

Methodology:

This study is an experimental research along with pretest-posttest in control group.

Statistical Population: the subject of this study included all mothers of primary-school children having learning disabilities and were referred to some psychological clinics and psychiatric centers as well as mothers of normal students during the year 2015-2016 in the city of Ardabil, Iran. The research inclusion criteria for the mothers of students having learning disabilities were: i) a minimum level of formal education equivalent to diploma, ii) with a child having learning disabilities with special reference to reading and writing. The total number of such subjects (mothers) were 50 in each category.

Data Collection Procedure: first of all, the required permits were obtained to conduct the study; which leads us to visit the psychological clinics and psychiatric centers in the city of Ardabil to collect the data. In this study, we used Learning Disability Self-Screening Tool and identified such students through convenience sampling. Further, 50 mothers of students having learning disabilities were selected as the subject for the

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experimental group and 50 individuals were selected from the control group, the mothers (subject) of normal students. As the next step, Beck Depression Inventory and Scales of Psychological Well-Being were applied on them. We conducted total 8 sessions of motivational interviewing for the experimental group whereas no such training was given to the control. The research methodology (experiment) was then again applied to both groups and finally the questionnaires were collected and the data were analyzed through the SPSS software.

Data Collection Instruments:

a) **Ryff's Scales of Psychological Well-Being:** This 84 item questionnaire was used to assess respondents' psychological state in both experimental and control groups. In this questionnaire, answers to any questions were determined by a range of 6 degrees (from strongly disagree to strongly agree). Each sub-scale consists of nine items in which the facets of Ryff's Scales of Psychological Well-being include autonomy, environmental mastery, personal growth, positive relationships with others, purpose in life, and self-acceptance with a total number of 84 items. It should be noted that in the items of 2, 4, 7, 9, 11, 13, 15, 17, 18, 20, 22, 24, 27, 29, 31, 32, 34, 35, 41, 42, 43, 44, 45, 54, 55, 56, 58, 60, 61, 62, 63, 66, 73, 74, 75, 76, 82, 83, 84 scoring is calculated in a reverse order. The psychometric properties of the original version of Scales of Psychological Well-Being have been reported at an acceptable level. In an investigation by Heydari (2011), the alpha coefficients for each scale of Psychological Well-being Questionnaire including self-acceptance, environmental mastery, positive relationships with others, purpose in life, personal growth, and autonomy were 0.78, 0.77, 0.4, 0.75, 0.73, and 0.60; respectively. It should be also noted that in the study by Heydari (2011), the internal consistency coefficients for the scales were from 0.86 to 0.93 and the test-retest reliability values were between 0.81 and 0.86. To calculate the reliability of Scales of Psychological Well-Being, test-retest, and internal consistency methods were used. In the test-retest reliability method with a two-month span for the administrations, reliability coefficient was calculated for the entire questionnaire as well as the subscales. Cronbach's alpha was also used to determine internal consistency.

b) **Beck Depression Inventory:** This questionnaire was designed by Beck *et al.* (1961) with 21 items composed of 4 to 5 sub-items. This inventory is appropriate for people over 13 years old with at least 6-years basic education. While answering, respondents should carefully read the statements of each category and tick the statements expressing their current state more than other statements. These statements measure the amount of impairments ranging from the mildest to the most severe, respectively. The respondents can obtain a score ranging from zero to 3 for each facet (zero indicates the absence of depression symptoms and 3 represents the severity in that dimension).

c) **Colorado Learning Difficulties Questionnaire:** This questionnaire was introduced as a new tool for quick and easy diagnosis of learning difficulties among students. It was originally developed to screen and identify children with learning difficulties. In this inventory; learning difficulties have been categorized into five components related to the reading, accounting, social cognition, social anxiety, and spatial functions with good psychometric characteristics (Lloyd & Hastings, 2009). The complete dataset required for this study were collected through this questionnaire. The questionnaire consists of 20 items which were filled up by the students' parents. The answers to every statement were on a 5-point Likert-type scale ranging from never (1) to always (5), respectively. The validity of this questionnaire and its components were measured by its designers through internal consistency and test-retest methods with acceptable values (Lloyd & Hastings, 2009). Discriminant validity and construct validity of this questionnaire have also been reported at a desirable level. Further, the convergent validity of the components of this questionnaire with standardized academic achievement questionnaires have been reported respectively as reading (0.64), social cognition (0.64), accounting (0.54), social anxiety (0.46), and spatial problems (0.30) (Willcutt *et al.*, 2011).

Data analysis: analysis of the data was first performed in a descriptive form which included mean, standard deviation, etc. To test the hypotheses in the second part, multivariate analysis of variance (MANOVA) in the SPSS software was used.

Results: results are summerized between Table-1 to 4. Levene's Test results to determine the equality of variances are: F- 0.789; degrees of freedom 1- 3; degrees of freedom 2- 96; significance level- 0.213. The significance level of the test error for equality of variances (p> 0.05) showed that the variances were equal.

Table 2: Results of Multivariate Analysis of Variance (MANOVA)

Variance source	Sum of squares	df	mean-squared	F	P	Eta-squ.
model	28696.717	1	28696.717	340.502	.000	.780
group	663.934	1	663.934	7.878	.006	.076
error	8090.654	96	84.278			
total	42231.000	100				

Considering the F-value (7.87) and the significance level (P) of the test error for the 0.99 confidence level was lower than 0.01, it confirming the first hypothesis stating that the motivational interviewing can reduce depression symptoms in mothers of students with learning disabilities.

Table-2: Levene's Test results for the components of psychological well-being

variable	F	df- 1	df- 2	P
Self-acceptance	.898	3	6	.135
Positive relationships	1.320	3	96	.077
Autonomy	1.073	3	96	.081
Environmental mastery with others	.784	3	96	.185
Purpose in life	.878	3	96	.124
Personal growth	.720	3	96	.201
Total	1.148	3	96	.074

the significant level of test error for the equality of variances (p> 0.05) demonstrated that the variances were equal.....to what?

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Table -3 : Results of significance level for multivariate analysis of variance of psychological well-being

	Test	Value	F	df for the hypothesis	df for the error	p	eta-squared
Model	Pillai trace	.996	4122.056	6.000	91.000	.000	.986
	Wilks' Lambda	.004	4122.056	6.000	91.000	.000	.986
	Hotelling trace	271.784	4122.056	6.000	91.000	.000	.986
	Root of Error	271.784	4122.056	6.000	91.000	.000	.986
Group	Pillai trace	.575	20.504	6.000	91.000	.000	.386
	Wilks' Lambda	.425	20.504	6.000	91.000	.000	.386
	Hotelling trace	1.352	20.504	6.000	91.000	.000	.386
	Root of Error	1.352	20.504	6.000	91.000	.000	.386

The significance levels of all the tests allowed for the use of MANOVA. The results revealed a significant difference at least in one of the dependent variables in the studied groups ($p<0.05$, $F=20.50$, Wilks' Lambda $=0.42$). Eta-squared showed that between-group differences was significance in terms of dependent variables and the amount of difference was 0.38 according to Wilks' Lambada test, i.e. 38% of variance was associated with between-group difference due to the mutual effects of dependent variables.

Table 4: Results of multivariate analysis of variance (MANOVA) on the variable of psychological well-being

Variance source	sum of squares	SS	df	MS	F	P
model	self-acceptance	94113.379	1	94113.379	10142.264	.000
	positive relationships with others	72211.776	1	72211.776	6063.083	.000
	autonomy	76720.449	1	76720.449	3477.587	.000
	environmental mastery	64705.841	1	64705.841	7175.255	.000
	purpose in life	78552.051	1	78552.051	5867.172	.000
	personal growth	71330.634	1	71330.634	12704.604	.000
	total	2736406.963	1	2736406.963	20976.598	.000
group	self-acceptance	385.738	1	385.738	41.570	.000
	positive relationships with others	277.107	1	277.107	23.267	.000
	autonomy	685.253	1	685.253	31.061	.000
	environmental mastery	215.418	1	215.418	23.888	.000
	purpose in life	47.453	1	47.453	3.544	.063
	personal growth	548.216	1	548.216	97.642	.000
	total	11544.175	1	11544.175	88.495	.000
error	self-acceptance	890.815	96	9.279		
	positive relationships with others	1143.367	96	11.910		
	autonomy	2117.895	96	22.061		
	environmental mastery	865.720	96	9.018		
	purpose in life	1285.287	96	13.388		
	personal growth	538.997	96	5.615		
	total	12523.244	96	130.450		

There is a significant difference between the means of self-acceptance, positive relationships with others, autonomy, environmental mastery, personal growth, and psychological well-being among the pre-test and post-test results obtained from experimental and control groups ($p<0.01$). The means for self-acceptance, positive relationships with others, autonomy, environmental mastery, personal growth, and psychological well-being among the pre-test samples of the experimental group were also higher than those of the post-test in this group.

Discussion:

"Motivational interviewing can reduce depression in mothers of students with learning disabilities", the results of the present study strengthened the relevant studies carried elsewhere (Shahrakipour *et al.,* 2009; Berjis *et al.,* 2013; Ganji, 2005). To explain this issue, it can be stated that motivational interviewing based on principles such as expressed empathy, avoidance from verbal discussions, supports for the personal effectiveness of clients, and movement with their resistance etc. can have interventions with each other (Miller & Sanchez, 1994; Miller & Rollnick, 1991). Research studies showed that motivational interviewing is a counseling directive (with an evidence-based approach) which helps clients to change their behaviors through detection and resolution of uncertainties. In other words, the main purpose of motivational interviewing is to treat and deal with a sense of doubt and ambivalence in clients. The counselor also uses such an approach in order to establish changes in clients' behaviour.

The amount of depression in the pre-test had a significant effect on the need for competence. Motivational interviewing is an evidence-based approach and a directive in order to strengthen and enhance

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intrinsic motivation for change through detecting, identifying, and resolving doubts and ambivalence. The second hypothesis that "motivational interviewing can enhance psychological well-being in mothers of students with learning disabilities" was also confirmed. Our results are in the agreement with the findings of other investigations including Shahrakipour *et al.* (2009), Ganji (2005), Besharat (2008), Keshavarzi & Azmoudeh (2009), strengthening the fact that motivational interviewing can increase psychological well-being in mothers of students with learning difficulties. Well-being refers to a sense of being healthy which encompasses a complete awareness of integrity in all personal aspects. Psychological well-being includes giving personal cognitive values to life; i.e. individuals give value to their conditions dependent on their previous expectations and experiences (Denier *et al.*, 2003).

Acknowledgements:
We thank to all the participants who were the subjects in our study.

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