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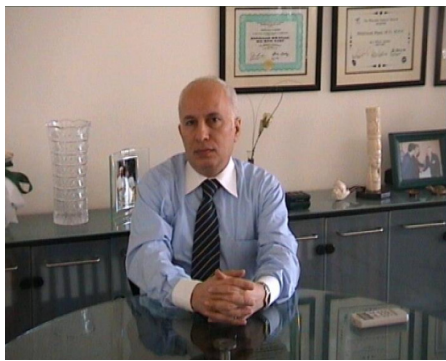
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Behavioral and psychological problems are frequently faced by the primary care physician. This issue of the journal deals exclusively with psychological and behavioral problems. It has a number of rich papers that deal with different aspects of the problem. A paper from Lebanon reviewed the problem of Attention Deficit Hyperactivity Disorder. The author stressed that Attention Deficit Hyperactivity Disorder (ADHD) is a behavioral disorder that is characterized by three characteristics: inattention, hyperactivity, and impulsivity. It can affect the child's academic, social, emotional, behavioral, and psychological development depending on the seriousness of the disorder. The treatment starts basically with a behavioral modification plan, and if results are not up to expectations, medication is recommended in parallel to the behavioral plan.

A paper from South Africa looked at Biopsychosocial Management of Attention-Deficit/ Hyperactivity Disorder in Adulthood. The authors stressed that ADHD is often considered to occur only in childhood, however this disorder appears to persist throughout the lifespan and clinically significant symptoms have been estimated to be present in 4.4 percent of the population. Symptoms are accompanied by high rates of co-morbid diagnoses and significant social, emotional, and occupational impairments. A biopsychosocial treatment approach is advocated as being best for adult patients with ADHD. Long-acting stimulant medications are most effective when combined with a psychosocial treatment plan that includes psycho-education, family or spousal counseling, as well as an individual psychotherapy intervention of which cognitive-behavioural therapy appears best.

A quasi experimental study from Iran investigated Intimacy pattern, and the effectiveness of Group Cognitive-Behavior Couple Therapy (GCBCT) on increasing marital intimacy among Iranian married couples. The participants were divided into an experimental and a control group. The experimental group attended 10 sessions of GCBCT. Both groups answered the Bagarozzi Intimacy Needs Survey Questionnaire (2001) before and after the therapy and the answers were analyzed by analysis of covariance. The analysis indicated that GCBCT in general increased marital intimacy among Iranian couples. It improved the emotional, psychological, intellectual, sexual, physical, and Social-recreational intimacy ( $P < 0/05$ ).

A Study from India looked at the nature and extent of accompanying handicaps in the mentally challenged. The authors stressed that to handle persons with mental retardation and multiple handicaps, more effectively a multi disciplinary approach is very much necessary. A Multi disciplinary approach would not only cover all the aspects of need of the handicapped, but it will also help the family to work as a cohesive and supportive unit for the benefit of the challenged person. The authors stressed the importance of training and family guidance support.

A paper from Libya attempted to detect the prevalence of behavioral difficulties among children attending nurseries in Tripoli, Libya. Data was collected over three months from parents. The Arabic version of Strengths and Difficulties Questionnaire (SDQ) was used. The sample size was 159 children aged between 2 and 5 years who were attending nursery. Data was analyzed to describe normative scores, bandings and cut-offs for normal, borderline and abnormal scores. Abnormal total difficulties score was 13.8%, Abnormal conduct disorder score was 44%, Emotional disorder score 7.5%, Hyperactivity disorder score 6.2%, abnormal Pro-social score 6.2% and peer relation score 30.8%. The authors concluded that more efforts are needed to identify those children and decide what we can usefully do to help the many, not only the few.

A paper from Iran investigated the psychometric features of Kundu's Neurotic personality Inventory and validation of it according to Iranian culture. Data was gathered through two samples (high school girls and boys). Also a neurotic sample was selected through boys and girls who referred to clinicians. Data Analysis showed that the KNPI has good psychometric features, and convergent validity with N scale of Eysenck Personality Inventory (EPI). Factor analysis showed that the KNPI has five components with Eigenvalue greater than one.

A cross sectional study from Pakistan assessed the health status of school children by Family Physician and reported any significant gender differences. Children aged 5-8 years were included in the study and data was collected using a structured questionnaire which included parent reported history and physician conducted examination. The mean age of the study sample was 6.5 years, and 62% were boys. Parents reported common health problems including dental caries 36%, learning difficulties 10.3%, and allergic rhinitis 9.3%. The most common health related conditions on examination were myopia 48.5%, dental caries and ear wax 35% each. The pilot study showed high prevalence of myopia, dental caries and ear wax. Boys had more morbidities compared to girls. Family history of non communicable diseases also indicated a case for initiation of health education and prevention efforts being started during the childhood years.

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# Prevalence of behavioural problems among nursery children in Tripoli

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## Introduction

Minimal research has been directed toward children and adolescent behavioral difficulties in Arab countries as data from these countries are poor and limited. Some data is available from a few studies carried out in the UAE (3), Egypt (1), Yemen (4) and the Gaza strip (5).

The SDQ has become one of the most widely used tools in child and adolescent mental health care across the globe. Although the SDQ was originally developed and validated within the UK (6) and its reliability and validity have been simulated in many countries including Arab countries; important cross cultural issues have been raised (7,4). Having accurate and up-to-date information about the prevalence of behavioral difficulties in children is important in determining and influencing the health policy of any country. Two advantages of SDQ are that it collects information from multiple informants and so reflects children's emotional and behavioral symptoms in different settings, and by using all the information from all respondents, enables an epidemiological rough estimate of the size of the problem as well as simple behavioral symptoms. (11, 12)

We have conducted a prevalence study in Tripoli, Libya using SDQ in order to detect the rates of behavioral difficulties among nursery children.

## Method

### 1. Setting

The study was carried out in the city of Tripoli, the Capital of Libya. Tripoli is a cosmopolitan city and represents Libya as a whole. The population of Tripoli is approximately two million. School were selected randomly from different districts in the city.

### 2. Sampling

The sample size was 159 children attending nurseries. The Education Authority provided us with a list of

## Abstract

**Objective:** to detect the prevalence of behavioral difficulties among children attending nurseries in Tripoli, Libya.

**Methods:** The study took place in Tripoli, Libya. Data was collected over a three month period between January and March 2009, from parents. The Arabic version of Strengths and Difficulties Questionnaire (SDQ) was used. The sample size was 159 children aged between 2 and 5 years who were attending nursery. Nurseries were randomly selected and then children were randomly sampled from each class. Data was analyzed to describe normative scores, bandings and cut-offs for normal, borderline and abnormal scores.

**Results:** Abnormal total difficulties score was 13.8%. Abnormal conduct disorder score was 44%. Emotional disorder score was 7.5%. Hyperactivity disorder score was 6.2%, abnormal Pro-social score 6.2% and peer relation score 30.8%.

**Conclusion:** Parent SDQs revealed higher rates of children with conduct and peer problems falling above the 90th centile established in the UK sample. Much greater investment in child mental health care is needed. More efforts are needed to identify those children and decide what we can usefully do to help the many, not only the few.

**Key Words:** Tripoli, Libya, behavioral problems, nurseries, SDQ.

public nurseries. Nurseries were randomly selected and then children were randomly sampled from each class of the selected nursery. Nine nurseries were selected from different districts in Tripoli. All nurseries agreed to participate but some parents declined to fill in the questionnaires. We randomly sampled 200 children from the 9 nurseries to cover the age group between two and five years. Parents were informed of the study formally by letters delivered to them by a doctor via the nursery head-teacher. With the letter they were sent questionnaires and their return of the questionnaires was considered as consent to participate in the study. Ethical approval was obtained under the local regulation from the health or education authorities.

### 3. Data collection and tools

For each child a parent was asked to complete the Arabic version of SDQ. This questionnaire includes 25 core items. The 25 items generate five scales: emotional symptoms, conduct problems, hyperactivity symptoms, peer-relationship problems and pro-social behavior. Each of these scales is scored from 0 to 10 and can be classed as "normal", "borderline", or "abnormal" depending on how the score compares with population standards based on original validation work in UK (11). All but the last scale are added to generate a total difficulties score ranging from 0 - 40.

Data was collected over 3 months between January and March 2009. Parents completed their questionnaires without any

interference from the nursery teacher.

### 4. Analysis

The results from the five subscales of the SDQ and the total difficulties score were classified using the standardized cut-off values into "abnormal", "normal" and "borderline". Prevalence values were calculated. Data analysis was carried out using the Statistical Package for Social Scientists (SPSS version 12).

## Results

A total of 200 children (5.53%) aged between 2 and 5 years were selected out of 2,875 children attending public nurseries in Tripoli. Nine nurseries were randomly selected. Only 159 children returned the questionnaires (91 males and 68 females) giving a response rate of 79.9%.

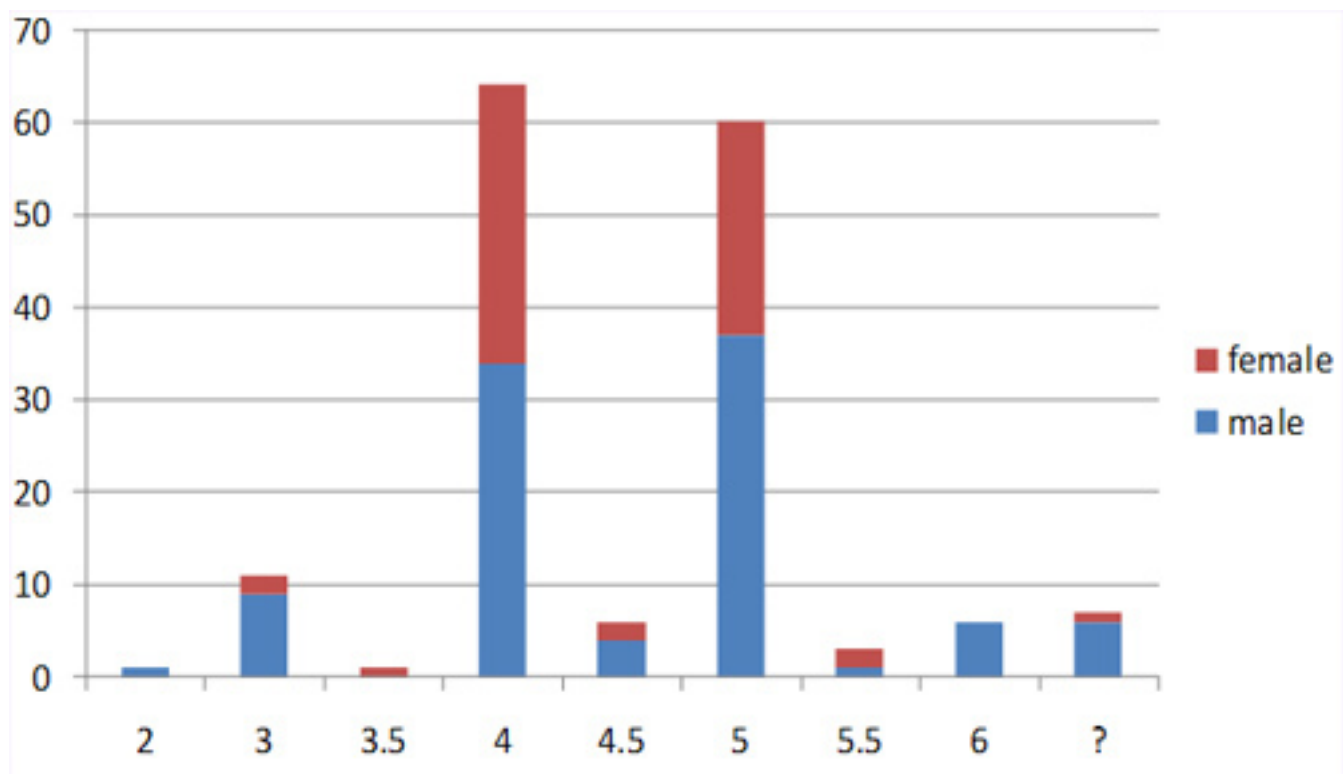


Figure 1 summarizes the distribution of children according to age and sex.

Table 1 summarizes the results of abnormal SDQ from parents who completed questionnaires (n 159). The highest proportion of abnormal behavior was for conduct problems with 44% of the children rated as in the abnormal category. 13.8% of children had a total difficulties score in the abnormal band. The highest problematic areas assessed by parents were conduct problems, followed by peer relations.

Figure 2 shows the distribution of total difficulties score according to age and sex; more females with behavioral problems between 4 and 5 years of age, were reported by the parents.

Score	Male	Female	Total	Percentage
Pro-social score	5	5	10	6.2 %
Hyperactivity score	6	4	10	6.2%
Emotional score	7	5	12	7.5%
Conduct problem score	51	19	70	44%
Peer problem score	22	27	49	30.8%
Total difficulty score	14	8	22	13.8 %

Table 1: Abnormal SDQ scores from parents returned questionnaires

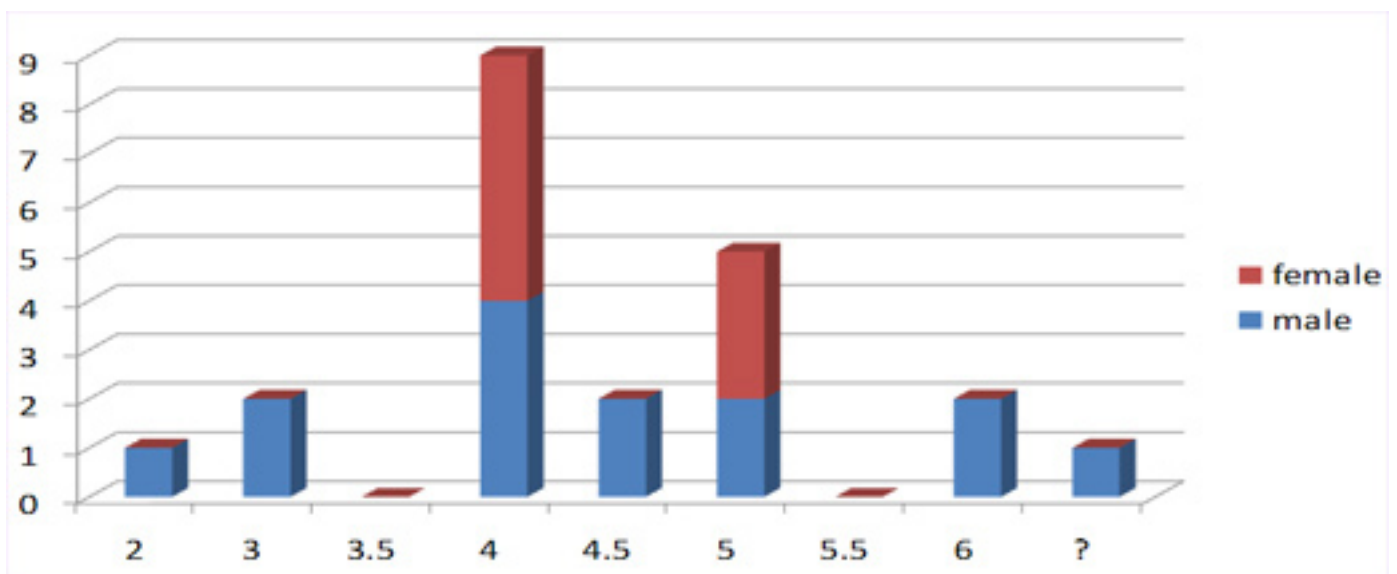


Figure 2: Total difficulties score according to age and sex

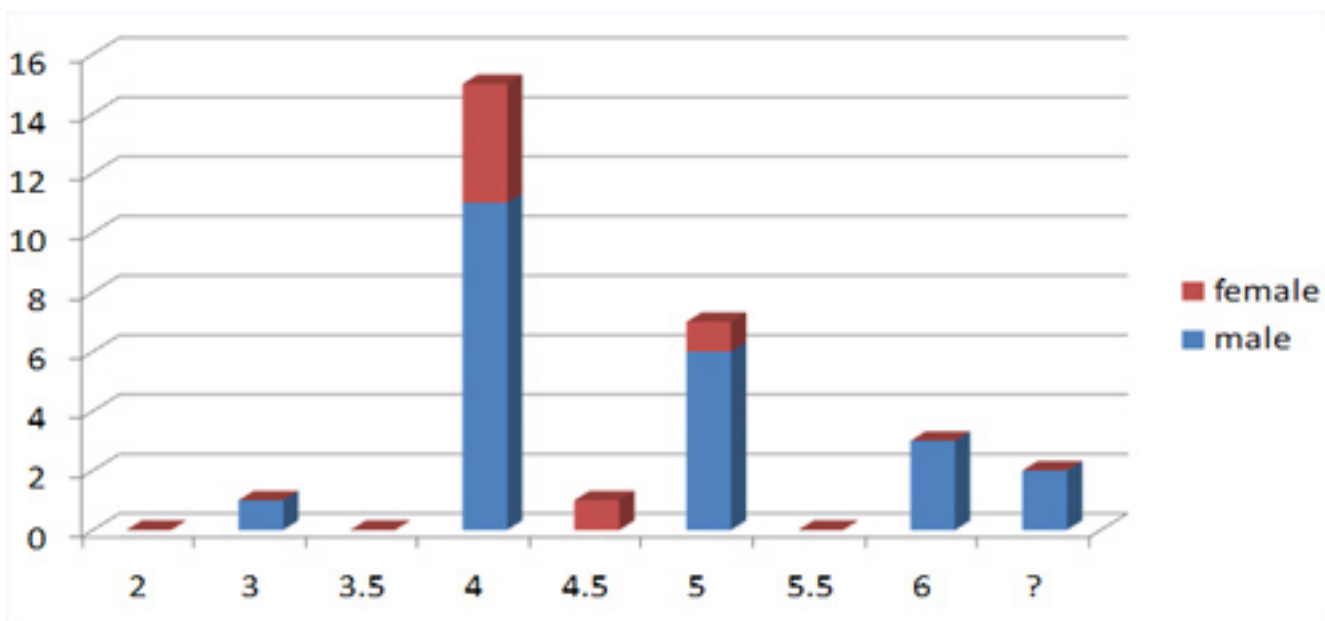


Figure 3: Borderline distribution of total difficulties score

Figure 3 shows the borderline distribution of total difficulties score according to age and sex; again more behavioral problems were reported by the parents in children between 4 and 5 years of age, but more common in males than females.

## Discussion and Conclusion

We believe that our sample is representative of all Libyan children attending nurseries. Parent SDQs revealed higher rates of children with conduct and peer problems (44%, 30.8% respectively) above the 90th centile established in the UK sample. Studies from elsewhere showed generally similar rates of conduct difficulties among preschool children (13). It is possible that this pattern of high prevalence of problem symptoms is related to the way we bring up our children, such as overprotection, underuse of appropriate discipline methods and the relatively large sized family. We have only included in this cross sectional study, children attending nurseries; children who were not attending nurseries were omitted and this may have underestimated the true prevalence of behavioral problems in preschool children. We recognize that the sample is small but within the facilities available to us, the high rate of response from parents and the standardized questionnaire used, we believe that all of these factors added some strengths to our study. Confirmation of diagnoses were not attempted as it is beyond the context of this study but we believe that the prevalence of the problem is likely to be accurate. Libya is a developing Arab Muslim country. There are several areas in child health in which early detection measures are likely to make a critical impact upon the health and education of the child or at least diminish the impact of developmental disabilities. Behavioral difficulties are one of these areas. It would be very interesting to know if any Arab country has managed to solve the problem of provision of services for children with learning difficulties and behavioral problems. This "hidden handicap" is a most serious disability as it frustrates communities and otherwise normal families, often going unsuspected and unrecognized even by doctors and teachers. In order to consider what are the best practical measures to help the children and their families and to ensure that these children receive the attention and the care; health and

education authorities must put more effort into identifying those children and decide what can usefully be done to help the many, not only the few. None of us as professionals can deny that this is a major problem, but what is the most effective action?

Children with moderate to severe behavioral difficulties attend special schools which are expensive education in any country of the world, but are the only path for the child to realize his or her potential. The priorities for these children are early detection and early intervention to prevent, if possible, any disability. Between 1930 and 1975 the world population increased by 2 billion; it doubled. Today the total is 5 billion and rising. At least two thirds of the total live in the so called "underdeveloped or developing" countries of which Arabs and Muslims are included. With this increase in the population and the associated problems subsequent to this, behavioral difficulties have become a major problem that needs attention and solutions. There is a risk that these difficulties are not priorities of such countries. It is possible to take a negative and passive view and say "There are far worse problems so why divert efforts?" or "There are other problems that can often be helped by simple procedures, and we don't see much behavioral difficulties around". There are indeed, many other terrible problems in the developing countries but behavioral difficulties in children are such a severe disability that every professional -health and education, must positively contribute, at least through advocacy. Parent's guidance is an additional task to be added to the duties, by no means light and easy, of primary health care workers.(14)

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# Kundu's Neurotic Personality Inventory (KNPI): validation in the Iranian family

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## Abstract

The aim of present research was to investigate the psychometric features of Kundu's Neurotic Personality Inventory and validation of it according to Iranian culture. Data was gathered from two samples (high school girls and boys). Also a neurotic sample was selected through boys and girls who were referred to clinicians. Data Analysis showed that the KNPI has good psychometric features, and convergent validity with N scale of Eysenck Personality Inventory (EPI). Factor analysis showed that the KNPI has five components with Eigenvalues greater than one.

**Keywords:** standardization, Validation, Kundu's Neurotic Personality Inventory, Iran

## Introduction

Personality is a pattern different from behavior, and contains mood, emotion and the thought that describes the adjustment of a person to his or her life. The elegance of one's personality pattern is the connection of different parts of individual characteristics that make up this pattern. (Annalashkmi and Narayan, 2001).

In each period in which a specific viewpoint has ruled, most forms of personality measurement were made according to that manner. Up until 1915 research about personality measurements were based on individual differences, for example Galton's movement in 1884 (Lanyon and Goodstein, 1998).

Lanyon and Goodstein (1998) considered the following factors in forming the scientific personal measurement: 1) Psychometric movements, 2) Psychoanalyses, 3) Abnormal Psychology, 4) Industrial Psychology, 5) New behaviorism, 6) Genetic behavior, 7) Socio-psychology 8) Trait theory.

Nowadays among these factors, Trait theory has been used much more than the others. Trait theory contains: Emotional stability and composure; Admitting error; Good interpersonal skills, and Intellectual breadth.

There are two main questions in this theory: 1) How many traits are there and what are they? 2) How can these traits be measured?

The answer to the first question, has been sought from the 1940's by Thurston (1949, 1951), Gilford (1946, 1947), Gilford and Martian (1943), Eysenck (1952, 1953) and Cattle (1940, 1950). Trait theory with five factor personality patterns and their branches, which reveals the relation between personality and related disorders; has since been developed.

But the answer to the second question hasn't changed for years. The tendency and emphasis on factor analysis methods by the use of computers and complicated statistical method have been used to answer this question (Lanyon and Goodstein 1998).

The psychologists' reason for assessing personality is based on the main aims of psychology. As we know, psychology tries to describe human behavior by the use of: 1) description 2) explanation 3) forecasting and 4) control or interference. The evaluation of personality, not only guides us in the perception of a specific behavior, but also helps us to know how it happens. Measurement is one of the main aims of science.



To make the diagnosis objective requires access to accurate instruments to correct match the results of instruments with underlying constructs measured by the instrument. In recent decades several instruments have been developed for the measurement of psychoneurosis. But despite increases use of this instrument scale in Iran, no attempt has been made to standardize these tests. The aim of the present study is to standardize and have Normative values of such an instrument of psychoneurosis based on Iranian culture among high school students in Tehran city.

**Personality and Psychopathology:** Personality and its disorders have been one of the main concerns of psychology (Fontana, 1997, Gross1992). The main evidence for this claim is the devotion of two axes of the DSM to personality disorders, and attempts that have been made to develop scales for measuring personality disorders. The concept of Psychoneurosis formally, has been seen for the first time in the Woodworth Personal Form (1919). This test has been constructed for American Military (Sheriff 1373) which was then was called Woodworth Psychoneurosis Inventory (Lanyon and Goodstein1998). Much research regarding this scale has been done and it has become one of the most

important part of traits and factorial analysis theory. As in Eysenck theory one of the main dimensions of personality is psychoneurosis which is mostly heredity. In one study done in Denmark, heredity in psychoneurosis has been supported.

The concept of psychoneurosis is on the most important scale in the NEO inventory which is more used by clinicians. Clinicians have diagnosed most signs of affective agitation such as phobia, depression, and hostility in psychoneurotic persons, and the symptoms of this disorder are fear, sadness, anger, and feelings of guilt. As we know EPI and NEO both measure psychoneurosis and in much research the validity and reliability of these inventories have been shown, many times. Having a specific scale questionnaire (instrument) with acceptable validity and reliability, to measure just psychoneurosis like DI (Beck Depression Inventory) can save time and money and will be a useful tool for clinicians.

#### **Kundu's Neurotic Personality Inventory**

The inventory was developed by Kundu (1965), and the purpose of the inventory is to obtain a reliable measure of neurotic tendencies of adult people for diagnosis, selection and guidance. K.N.P.I. questionnaire has 66 items. It was developed

according to Indian social-cultural pattern. To minimize faking and also to reduce the nature and number of slanted responses, non-aggressive types of items were included. In order to check the subjects who have a tendency to respond to the middle-most categories from a pattern of systematic presentation, the arrangement of the response pattern from 1 to 5 was not made according to the decreasing degrees of symptoms. The scoring key was prepared on the basis of judgment given by psychiatrists, psychoanalysts and psychologists. Each statement is designed to score for positive or negative response as it represents symptoms of neurotic tendencies. For five items Nos. 41, 51, 55, 56 and 58 (in the original form) negative responses are indicative of neurotic tendencies and for the other items it is the positive response that indicates neuroticism.

The different categories of responses are given different weights depending on the degree of neuroticism they measure. The statements indicating neurotic tendency for positive response are credited with 5, 4, 3, 2, 1 and 1 for response 1, 3, 5, 4, and 2 respectively. Similarly the scoring is just the reverse with respect to statements indicating negative response for neuroticism. Table 1 shows coefficients of reliability in Indian society.

Group	N	Reliability	
		First half Vs Second half	Coefficients odd Vs even
Male	629	0.85	0.89
Female	308	0.80	0.89
Neurotic	50	0.72	0.80

**Table 1: Coefficients of Reliability**

Khanna and Kund (1968) reported significant difference of mutual validity of K.N.P.I. and Brown Roiter Scale. Coefficient of the male group was 0.65 and in the female group 0.80. In the present study 10 items were added to the original questionnaire to improve the reliability coefficient of the questionnaire.

#### Question:

The aim of the present study is to find reliabilities and standardize the K.N.P.I.

According to Kuronbakh and Mohill (1970) the aim of reliability of any scale is hypothesis and the aim of validity is to support the hypothesis of that scale. Therefore our question in the present study is:

- 1) Does K.N.P.I. have a reliability above 70 ?
- 2) Is internal validity above 70 among items which would show that K.N.P.I. is a reliable scale.
- 3) Is there any cohesion among K.N.P.I. items and N. scale of

Eysenck inventory?

4) Is there a relation between scores of K.N.P.I. and clinical diagnosis? Or do those who have a diagnosis as Neurotic, have a high score on K.N.P.I. ?

5) What are the norms of K.N.P.I. in present society?

#### Samples:

Samples of the present study consist of high school students (boys and girls) of Tehran in years. 1382-1383, and those students who attend a psychologist and have a Neurotic

#### Diagnosis.

The total number of the sample in Step One (Experimental) was 100 students and in Step two (performing the original test) there were 660 students. Table 2 shows that the means of girl students is higher than boys.

#### Reliability of K.N.P.I.

Table 3 shows the sex coefficients of reliability between girls and boys.

Table 4 shows the test coefficient validity, investigated correlation between scores of K.N.P.I. and scores of N scale of Eysenck inventory scale. There is a significant difference at 0.01 for K.N.P.I. and N scale of Eysenck inventory scale.

Difference of K.N.P.I. score among students: Difference of mean between boys and girls students in K.N.P.I. with use of T student is presented in Table 5.

As Table 5 shows there is significant difference between scores of girl and boy students ( $T(583) = -6.618, P < 0.01$ ).

#### Data Analysis

Analysis of data was done by principle components analysis and varimax rotation factorability which shows significant differences (Table 6). Five factors show Eigen valued above one, and screen plot shows this fact. Component analysis and load factor questions are shown in Table 6.

	Total	Girls	Boys
No.	585	286	299
Mean	188.67	198.14	179.22
SD	1.548	2.226	2.022
Main	188	200	179
	171	211	171
SD	37.432	37.651	34.957
Variance	1401.190	1417.620	1221.906.
	0.282	0.289	0.209
minimum	109	120	109
maximum	323	323	270

Table 2: Sex descriptive statistical

Group	No.	X
Boys	299	0.9181
Girls	286	0.9690
Total	585	0.9268

Table 3: Shows sex coefficients of reliability

Groups	No.	R	Significant
Total student	100	0.553	P<0.01

Table 4: Shows correlation of K.N.P.I. and N scale

Groups	No.	Mean	SD	.....	T	Significant
Boys	299	179.62	34.957			
Girls	286	198.14	37.65	583	-6.168	P<0.01

Table 5: T significance

KMO	.....	Significant
0.897	12205.462	P<0.01

Table 6: KMO measures and results

Out of 60 students (30 boys and 30 girls) who were diagnosed as neurotic, 58 (30 girls and 28 boys) had a high score on K.N.P.I. which shows the validity of the inventory. Also girl students showed higher scores than boys.

Table 7 (next page) shows loaded factors for all items. Questions were arranged according to validity of the questions and numbers in parentheses are the numbers of the

original questionnaire. The result of norms is presented in Tables 8, 9 and 10.

Table 7 shows most of the questions have factor load on factor one. Number in parenthesis shows the number of questions in the original questionnaire, which was performed. Also questions number 5, 18, 25, 32, 44, 48, 51 and 57 in the original questionnaire had no inter-correlation with other questions,

and had no factor load on any factors, therefore in preparing the final questionnaire they have been omitted.

Kundu (1965) and Harris (1980) have shown the same result. Kundu's test reliability uses the method of dividing into halves (bisection) which compares the first half with the second half in the group of males, 0.85Y, group of females 0.80 and group of neurotic patients 0.72, and

1	Feeling unhappy (7)	.608				
2	Feeling mentally tired in the absence of any physical tiredness (23)	.578				
3	Having or had (if parents are not living) disagreeable feelings toward parents (50)	.574				
4	Thinking that you are usually unlucky (61)	.521				
5	Having conflicting moods of love and hate for members of the family (64)	.514				
6	Feeling happy about home environment (65)	.493			.409	
7	Suffer from disinclination to sleep and or periods of wakefulness at nights (22)	.477	.308			
8	Feeling very restless or unable to concentrate on anything (36)	.473				
9	Having feelings of happiness and sadness alternately (7)	.459				
10	Having the sensation of falling during walking (21)	.419				
11	Feeling "fed up", i.e having a low mood and feelings of despair	.419				
12	Having fear and worries about things and or ideas (37)	.417			.331	
13	Feeling that life is a great burden (55)	.416				
14	Thinking of yourself as nervous (52)	.409			.301	
15	Thinking you have a satisfactory adjustment to life (62)	.409				
16	Day-dreaming about improbable occurrences (2)	.400				
17	Suffering from bad headaches not due to any apparent physical cause (71)	.381				
18	Being bothered by some particular useless thought (15)	.379				
19	Having the sensation of falling, when you are about to sleep (20)	.378				
20	Wake up frightened in the middle of night without any apparent reason (33)	.378	.364			
21	Feeling tired after waking up in the morning without apparent physical cause (59)	.365	.345			
22	As ideas run through your head it is difficult to sleep (1)	.362				
23	Experience changes of mood from pleasant to unpleasant or from unpleasant to pleasant (17)	.358				
24	Being worried about possible misfortunes (8)	.346				
25	Becoming easily over-excited (47)	.345	.313			
26	Becoming unmindful to keeping still during a long meeting (53)	.316				
27	Being compelled to repeatedly wash hands or clothes (41)		.591			
28	Being compelled to count windows, people, etc. (39)		.565			
29	Jump (make a sudden movement) badly at sudden lights (26)		.554			
30	Jump badly at sudden sounds (27)		.547			.338
31	Jump badly at sudden touches (28)		.545			
32	Being compelled to reading notices, figures, etc. (43)		.525			
33	Being compelled to utter rhymes or phrases (40)		.515			
34	Jump (make sudden movement) badly at sudden sights (29)		.499			
35	Troubled with fear of being suffocated and or crushed in a crowd (30)		.434			
36	Having complaints of vague ill-health, such as obscure pain, digestive disorders, rapid beating of the heart, etc. (49)	.310	.406			
37	Being compelled to tap lamp post (or other) (42)		.309			
38	Feeling uneasy due to shyness (10)			.732		

(continued next page)

39	Being bothered by self-conscious shyness in social situations (46)			.711		
40	Difficulty in starting conversation with a stranger ( unknown person) (6)			.634		
41	Feeling nervous to initiate an idea or to start discussion among a group of unknown people (11)			.568		
42	Troubled with feelings of inferiority (12)			.488		
43	Feeling inconvenience due to uncontrollable blushing (becoming red), trembling (shaking with fear), or blanching (growing pale with fear) (19)			.456		
44	Difficulty in doing many things confidently (16)			.439		.320
45	Difficulty in making decisions for yourself (13)			.414		
46	Slow in making decisions (9)			.359		
47	Being afraid to remain alone at night in a house (54)			.357		
48	Troubled by thoughts about what others are thinking of you (38)			.339	.308	
49	Being hurt by criticism (4)			.323		
50	Unable to concentrate as mind wanders due to slightest distraction (24)			.306		
51	Taking an active part in giving help in the case of an accident before you (63)				.541	
52	Becoming nervous when facing quarrelsome situations (69)				.483	
53	Being worried about undecided matters (67)				.472	.336
54	Having fear of death about your parents, friends or other persons whom you love (45)				.449	

Table 7

with the method of odds vs evens in the group of males at 0.89, group of females 0.88 and in the neurotic group of patients 0.80 in which there was not much difference with the results of this study, and the difference can be because of the sample of study.

Kunna and Kundu (1968) reported reliability coefficient validity with a scale of B1-N Brown in a group of males 0.65 and in a group of females 0.80. Also Harris (1980) shows reliability equivalent with a scale of N of Eysenck Inventory in a group of males 0.93, and patients 0.70. All above studies supported the present study in Iran.

#### Limitation

The present study had the following limitation:

- 1) The results of the study were from investigations in a group of teenagers and adolescents.
- 2) High score in this test does not mean the person is a patient, but means the person has a tendency to show those symptoms which Eysenck called Tough-Mindedness.
- 3) There is little support of reliability and validity of other investigations.
- 4) Reliability equivalent (parallel form) has been only compared

with the boy N scale of Eysenck personality Inventory with other Inventories such as B1-N scale Brown and NEO were not compared.

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# Health Assessment of First Grader School Children by a Family Physician : (A Pilot Study)

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## Abstract

The objective of this study was to assess the health status of school children by a Family Physician and to report any significant gender differences.

**Study Design:** A cross-sectional study was done in a private school in Karachi, Pakistan.

**Place and Duration of Study:** Private School, Karachi. March-April 2008.

**Patients and Method:** Grade one school children aged 5-8 years were included in the study and data was collected using a structured questionnaire, including parent reported history and physician conducted examination. Data was computed and analyzed using SPSS, version 16.0. Descriptive statistics were expressed as proportion, mean and standard deviation (SD). Bivariate analysis was conducted to compare different proportions with regard to gender difference by using Chi square test. Significance level was set at <0.05.

**Result:** The mean age of the study sample was 6.5 years, and 62% were boys. Parents reported common health problems including dental caries 36%, learning difficulties 10.3%, and allergic rhinitis 9.3%. The most common health related conditions on examination were myopia 48.5%, dental caries and ear wax, 35% each.

**Conclusion:** Our pilot study has shown high prevalence of myopia, dental caries and ear wax. Boys had more morbidities compared to girls. Family history of non communicable diseases also indicates a case for initiation of health education and prevention efforts being started during the childhood years.

**Key Words:** School health, Screening, Myopia, Dental caries, Ear wax

## Introduction

Health is vital to a child's learning in school and success in later life. Early physical examination could identify high risk groups among school-aged children and subsequently carrying out of secondary prevention measures.(1) The primary benefit of screening is early identification of health problems and developmental delays by primary care providers that leads to early referral for proper diagnostic evaluation and early treatment.(2) Early identification of developmental delays also helps children in meeting their full potential by provision of developmentally appropriate activities and stimulation, most importantly; early screening followed by intervention positively affects later school performance and may prevent secondary problems.(3)

Family Physicians can play a vital role in school health screening. Research has indicated that physical examination of children by primary care physicians, can detect any impairment and physical changes associated with diseases, which parents may be unaware of due to their limited medical knowledge. Students health examination also identifies unmet health needs and provides an effective health check for children who start school with health and developmental disadvantages.(4) Some of the health conditions that could be picked up early by screening and hence prevent potential severe consequences include, amblyopia (a preventable cause of visual loss in children), developmental dysplasia of the hip, dental caries, growth and developmental disorders and myopia etc.(4,5)

Several studies report morbidity among school-aged children, however, the majority have focused on a single health problem (such as learning disability, vision impairment, and hearing problems etc.). (5,6) The absence of reliable data from Pakistan on health status of school aged children indicates the need

for research efforts to be directed to this important public health area. As a preliminary effort, we aimed to explore the health status of first grader students at a primary school in Karachi and to report any significant gender differences, if present.

## Material and Methods

This was a cross-sectional study conducted in a private school in Karachi, Pakistan. Karachi is the largest city of Pakistan and comprises of a mix of all major ethnic groups of Pakistan. This study was conducted between March and April 2008. First grader school children, aged 5-8 years were included in the study after taking written informed consent by their parents/guardians.

The data collection instrument was a questionnaire designed after extensive review of literature on school health and feedback from several consultant Family Physicians from the department of Family Medicine, Aga Khan University, Karachi, Pakistan. Data was collected by Family Physicians who were trained by the principal investigator for carrying out children's examination and filling out the survey form. The study questionnaire comprised two major sections, besides information on child identification. The first section was comprised of questions pertaining to current health status, family history, and vaccination history of the child and was sent to child's parent for filling in. The second section was filled in by the Family Physicians, after examining the child who recorded the findings of physical examination as well as questions on eating and physical activity pattern of the child. Detailed physical examination was done by trained Family Physicians. Height and weight were assessed by using a measuring scale and weight machine. Posture was checked to detect any abnormalities. Anemia, jaundice, clubbing, edema, hair, lymph node, cyanosis and thyroid examination was done. Eyes were assessed for myopia, hyperopia, amblyopia, strabismus, astigmatism, color-blindness, nystagmus, and

ptosis. Visual acuity was checked by Snellen's chart at 20 feet distance with one eye covered and letter reading from top to bottom, aloud. Ishihara chart was used for color vision screening (Tokyo, Handaya company 1917). Ocular muscles and strabismus were also checked. The problems in the ENT (Ear, Nose, Throat) system were examined included hearing impairment, tympanic membrane perforation, otitis media, wax, dysarthria, lip cleft and palate, sinuses and throat condition. Ear examination included hearing test as well as otoscopic examination for wax, foreign body and tympanic membrane. Nose and throat were examined to look for any pathology. Oral cavity was examined for cyanosis, gum and teeth condition. Teeth were examined for problems such as caries, calculi, gingivitis, and periodontal disease. Integumentary system (hair, skin and nails) was checked for hemangioma, dermatitis, infection, head-lice, tinea, warts, purpura and scabies. Systemic examination included standard heart, lungs, abdominal, musculo-skeletal and neurological examination. Abdominal examination was done for hepato-splenomegaly, enlarged kidneys and free fluid. The health problems examined in the heart lung system included arrhythmia, heart murmur, asthma. Motor and sensory system examination as well as body balance was checked. In the musculo skeletal system signs of scoliosis, kyphosis, lordosis and postural adequacy were investigated.

Ethical aspects were given due consideration. Written informed consent of the parents as well as permission from school was taken before start of study. In the case of any problem identified in the child during examination that required further medical advice and referral; parents were informed and guided regarding the problems.

### Data Analysis:

Data was computed and analyzed using SPSS, version 16.0. Descriptive statistics were expressed as proportion, mean and standard deviation (SD). Bivariate analysis was conducted to compare different

proportions with regard to gender difference by using Chi square test. Significance level was set at <0.05.

## Results

The total number of students included in the survey was 97. Sixty-two percent of the study sample was boys and 38% were girl students. The mean age of the children was 6.5 years.

Parent reported medical history: The most common health related conditions reported by parents were dental caries 36.1%, followed by learning difficulties 10.3%. Allergic rhinitis and bronchial asthma were found in 9.3% and 8.2% of children respectively. The frequency of worm infestation was 6.7%. Past history of chicken pox 22.4%, skin infections 10.2%, ear infection and jaundice 8.2% each were amongst the most frequent health conditions that affected study children. (Table 1 next page). Regarding the family history, 29.4% children had someone in the family with hypertension, 13% with heart disease and 12% with diabetes.

Parents reported that 52.6% of children had completed their childhood vaccinations included in the Expanded Program of Immunization. Sixteen percent of children were taking some kind of medication at the time of survey. The majority of the children, 66.6%, were taking regular breakfast. Of those children, who ate during recess time, 80% were taking home made snacks. The frequency of junk food (defined as unhealthy food such as burgers, French fries and pizza) was 23.7%. More than half, 57.7%, were referred to a sub specialty clinic for detected clinical problems.

### Clinical Examination:

Twelve percent of children had clinical anemia. Stunted growth was found in 14.4% of children.

Myopia was the most prevalent eye problem detected in 48.5% of the study children (Table II). Boys were affected more than the girls (27% and 20% respectively but this difference was not statistically significant (p value 0.22). Nine percent of children

Variables	Boys=n(%)	Girls=n(%)	P-value
EPI vaccination done			
Yes	30(51.7)	21(63.6)	0.27
No	28(48.3)	12(36.4)	
Dental Caries			
No	35(66.0)	19(52.8)	0.20
Yes	18(34.0)	17(47.2)	
Learning Difficulty*			
No	51(89.5)	33(89.2)	0.96
Yes	6(10.5)	4(10.8)	
Asthma*			
No	55(91.7)	34(91.9)	0.96
Yes	5(8.3)	3(8.1)	
Allergic Rhinitis*			
No	55(91.7)	33(89.2)	0.68
Yes	5(8.3)	4(10.8)	
Eye problem*			
No	58(96.7)	32(86.5)	0.06
Yes	2(3.3)	5(13.5)	
Headache*			
No	56(93.3)	37(100)	0.10
Yes	4(6.7)	0.00	

N=97

\*P value on Fisher exact test

**Table 1**

were found to have amblyopia and 6 were girls. One child each had color blindness and blepharitis.

Amongst the dental problems, untreated dental caries was the most common problem detected, 35.1% in the first-graders. Boys (21%) had higher caries prevalence than girls 13%.

The most common ENT problem was wax in ear. 35.1% were examined by otoscopic visualization; 22.6% of them were boys and 12% were girls. Ear infection was found in about 4% of children. Ten percent had tonsillar enlargement without infection while 5.1% had acute throat infection. Two children had foreign body in ear and were urgently referred to hospital.

About 20% of children had a condition affecting skin. Head lice and dermatitis 12.6% each

were the most common problem found in girls, 4% had seborrhic dermatitis and 3% had scabies. Skin problem was more in girls as compared to boys (p value 0.00). Six percent of first-graders were found to have asthma (broncho spasm on chest examination). No particular abnormality was detected on abdominal examination, musculoskeletal, cardio vascular and neurological examination of study subjects.

The top three health problems found in our study were dental caries, myopia, and ear wax (Table 2).

### Discussion

In this study the morbidity reported by parents was 52.5% which means every other child had at least one medical problem. Parent reported history shows significant family history of hypertension, diabetes

mellitus, heart disease and high cholesterol. Other significant problems reported by parents such as dental caries, and allergic rhinitis need to be addressed in early childhood to prevent complications and secondary problems. Examination revealed that every child had 1.5 problems on average. Health assessment is vital in children as intervention at early stage will assist them. (7) The findings from our study were consistent with the findings from another study on the first-graders in Taipei City, which revealed that 85.1% of students had at least one health problem and, on average, each student had 1.6 health problems.(8) Morbidity patterns reporting exclusively among first graders is reported sparsely in international literature. A study done in Islamabad, Pakistan emphasized the screening for common health problems and nutritional status



Variables	Total n (%)	Boys=n(%)	Girls=n(%)	P-value
Wheeze				
No	91(93.8)	57(95.0)	34(91.1)	0.53
Yes	6(6.2)	3(5.0)	3(8.1)	
Myopia				
No	50(51.5)	32(53.2)	15(40.5)	0.22
Yes	47(48.5)	27(46.7)	20(59.5)	
Dental Caries				
No	63(64.9)	39(65.0)	19(51.4)	0.18
Yes	34(35.1)	21(35.0)	13(48.6)	
Earwax				
No	63(64.9)	38(63.3)	25(67.6)	0.67
Yes	34(35.1)	22(36.7)	12(32.4)	
Skin problems				
No	78(80.4)	54(90.0)	24(64.9)	0.00**
Yes	19(19.6)	6(10.0)	13(35.1)	
Tonsillar enlargement*				
No	87(89.7)	56(93.3)	31(83.8)	0.13
Yes	10(10.3)	4(6.7)	6(16.2)	
Anaemia*				
No	85(87.6)	52(86.7)	33(89.2)	0.71
Yes	12(12.4)	8(13.3)	4(10.8)	
Haziness of tympanic membrane*				
No	93(95.9)	58(96.7)	35(94.6)	0.61
Yes	4(4.1)	2(3.3)	2(5.4)	
Color blindness*				
No	96(99.0)	60(100.0)	36(97.3)	0.20
Yes	1(1.0)	0(0.0)	1(2.7)	

*N=97*

*\*P value on fisher exact test*

*\*\*p value highly significant*

**Table 2**

among children, and has reported the prevalence of anemia at 30.4%, hearing difficulty 27.1% and visual problems 14.4%.<sup>(9)</sup> School health services program from Lahore Pakistan reports that after comprehensive health assessment 95.6% of children were found to have a variety of health problems and 87 out of 1,596 children were referred to a pediatrician.<sup>(10)</sup>

Our study shows myopia as the number one health problem among

first-graders at 48.5% (Table 2). Three percent of children had as high as 20/80 vision. The high prevalence of myopia was similar to some findings reported in East Asia for children at the same age. Literature has suggested that the prevalence of myopia is growing worldwide, and higher increases were observed in Asia. Previous studies by Saw and colleagues found school children's myopia prevalence to be 38.4% at seven years of age. Both the incidence and progression rates

of myopia were high in Singaporean children.<sup>(11,12)</sup> In contrast the prevalence of myopia in Australian children was quite low.<sup>(13)</sup> A study from Malaysia reports prevalence of myopia at 9.8% at the age of seven years which was more common in females and those with Chinese ethnicity. <sup>(14)</sup> In Mongolian school children the prevalence of myopia was 5.8% and girls exhibited a significantly higher prevalence.<sup>(15)</sup> In terms of gender difference, our study

showed that boys' 27% prevalence was higher than girls' 20%, and this difference was marginally significant (p value 0.06); however another study shows the reverse.(10) Literature from Taiwan shows that the prevalence of myopia has increased among students from 5.8% to 21% between 1983 and 2000. Myopia occurrence was found to be related to close-to-object studying for longer times and watching a television screen for learning or entertainment. This phenomenon occurred in urban areas more than in rural areas.(16) Reduced vision may affect academic performance, choice of occupation and socio-economic status in adult life and if uncorrected may lead even to blindness. (10,14) Vision screening is used widely in developed countries but in developing countries it may be difficult due to different barriers in accessing health care. A study from Rahimyar Khan Pakistan reports the incidence of myopia as 19% among children 8-15 years of age.(17) In Iran prevalence of refractive error among school children was 3.4% in primary school children.(18)

High prevalence of myopia was also seen in the Chinese youth population study.(19) In Pakistan 11.4% of the blindness is due to uncorrected refractive error. The prevalence of myopia was found to be 43% in a study from Lahore Pakistan which also showed strong correlation between positive family history, watching television closely, studying in dim light and over indulgence in watching computer or video games.(20) Regarding eye morbidity, our study showed amblyopia at 9.2%, predominantly among girls at 6.1%. Amblyopia caused by deprivation of vision early in life has no symptoms. Early vision check up at the age of 3-5 year and refractive correction is required to avoid permanent visual loss.(21,22)

Dental caries are another major health problem that has affected our studied children. About 35% of children had dental caries on clinical examination (Table 2). They are the main cause of tooth mortality, dental emergencies, and tooth extraction at a young age. In Taipei County,

the top health problem among first graders was untreated dental caries at 69.6%.(8) These findings suggest that the prevalence of caries may not only relate to the country's social-economic status, but also closely relate to lifestyles.(23) With respect to sex difference, our study results showed a higher prevalence of dental caries among boys than girls which is consistent with a study from Taiwan.(10)

The reasons for dental caries in Pakistan reported by Ninette included poor hygiene and 90% of the all caries experience were the result of untreated decay.(24) A study in northern Iran reports a reverse trend with girls having more caries than boys. (25) Caries prevalence in an urban Fijian school was 87.6% in primary dentition and 46.7% in secondary dentition between the ages of 6 and 8 years.(26) Studies have found that many parents tend to ignore the need for treatment for children's caries considering the replacement of milk teeth by permanent teeth. (27) The prevalence of dental caries reported from India was 68.5% (28)

Various studies discussed the prevalence of dental caries in relation to differing socio- economic status. (29,30)

Other health problems recorded were allergic rhinitis and bronchial asthma. One study shows that these health conditions are found to be associated with learning disabilities and grade failure. (31,32)

In this study we found 12.4% of the children were clinically anemic. A study done in Pakistan shows 27% of girls were anemic in primary school children.(33)

Vaccination history reported by parents included both EPI program vaccines as well as other childhood vaccines available in the country. EPI vaccines in Pakistan include BCG, Oral polio vaccine, DPT (Diphtheria, Pertussis and Tetanus) and Measles. Other available vaccines are Hib, MMR (Mumps, Measles and Rubella), pneumococcal, varicella,

typhoid, hepatitis A, meningococcal and flu vaccines. Complete vaccination status in our study is 52.6% for EPI program vaccines (Table 3).

EPI vaccination reported in one study from Pakistan showed 45% of the infants were age appropriately vaccinated. (34) A study from Hyderabad Pakistan showed that all children were vaccinated for polio, 71.6% for BCG, 64.8% for DPT while only 40.8% had measles vaccination.(35)

Our results also found significant family history of hypertension, diabetes mellitus, heart disease and high cholesterol as reported by the parents of the study children. All these diseases have their origins in the lifestyles formed in childhood time. Further well designed studies may target children with family history of chronic diseases and start interventions in these habit forming years. This is a cross-sectional survey from one class of a primary school which was selected on the basis of convenience. Hence the study findings cannot be generalized and causality cannot be established. Parent reported results may be subject to recall and wish bias. However this study serves the purpose of a pilot study based on the findings of which we can develop further larger studies in the primary care setting, done by Family Physicians.

## Conclusion

The result showed that about half of the first grader students have at least one problem; our pilot study has indicated high prevalence of myopia, dental caries and ear wax. Boys had more morbidities compared to girls. A high prevalence of chronic diseases in the family makes a case for health education and prevention efforts being started during the childhood years. Similar surveys at a larger level are recommended.

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Variable	n (%) <sup>*</sup>
BCG	46(47.4)
Hepatitis B	38(39.2)
Polio	52(53.6)
DPT	46(47.4)
Measles	40(41.2)
Chicken pox	26(26.8)
Pneumococcal	8(8.2)
Typhoid	30(30.9)
Don't know	5(5.2)
No vaccine	9(9.3)

*\*First five represent vaccines included in the country's EPI program*

**Table 3**

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# Biopsychosocial Management of Attention-Deficit/ Hyperactivity Disorder in Adulthood

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## Introduction

Attention-deficit/hyperactivity disorder (ADHD) is one of the most common developmental disorders. It is characterized by behavioral and cognitive symptoms such as hyperactivity, inattention, disorganization, and impulsivity. The symptoms must be severe and cause clinically significant and persistent impairment in multiple domains of an individual's life in order to warrant a diagnosis. In childhood, the most problematic symptoms are hyperactivity, impulsivity, and inattention. These problems result in disruptive behavior at home and at school, which frequently initiates clinical referral for diagnosis and treatment [1].

ADHD has for some time been considered to occur exclusively during childhood but studies have demonstrated that the symptoms remain stable and clinically significant for the majority of ADHD patients throughout their lifespan [2]. It is estimated to affect 5 to 10 percent of the child population [3], however epidemiological estimates of its occurrence in adulthood are sorely lacking. The only large adult epidemiological study conducted thus far found clinically significant ADHD symptoms in 4.4 percent of the population in the United States [4]. Data on adult incidence of ADHD from elsewhere, including Africa and the Middle East, is sparse. There is however sufficient evidence to suggest that ADHD tends to persist across the developmental spectrum. A recent investigation revealed that almost 66 percent of individuals diagnosed as children with ADHD, reported at least one ADHD symptom causing clinically significant impairment later during adulthood [5]. The persisting symptoms do present somewhat differently in adulthood though. It is said that hyperactivity decreases but inattention, disorganization, and impulsivity results in difficulty

## Abstract

Attention-deficit/hyperactivity disorder (ADHD) is one of the most common developmental disorders. Often considered to occur only in childhood, much is known of its manifestation during the younger years of life. However, does ADHD present amongst adults, and if so, how does this condition present clinically? Does it manifest differently in adulthood than in children? What diagnostic and treatment issues should be considered with particular reference to adult ADHD?

This disorder appears to persist throughout the lifespan and clinically significant symptoms have been estimated to be present in 4.4 percent of the population. Symptoms are accompanied by high rates of co-morbid diagnoses and significant social, emotional, and occupational impairment. A bio-psycho-social treatment approach is advocated as being best for adult patients with ADHD. Long-acting stimulant medications are most effective when combined with a psychosocial treatment plan that includes psycho-education, family or spousal counseling, as

well as an individual psychotherapy intervention of which cognitive-behavioural therapy appears best.

Family practitioners are encouraged to engage multidisciplinary colleagues and refer appropriately (e.g. a patient may be referred to a clinical psychologist to receive the psychotherapeutic intervention).

**Key Words:** Adult ADHD, bio-psycho-social, management, treatment

functioning both at home and at work. The predominant complaints seen in adult patients are trouble organizing and completing necessary tasks related to either higher education or employment. The prevalence of anxiety and depression, drug abuse, and antisocial behaviours has been shown to present with greater frequency amongst adults with ADHD than in the general population [6]. Adult patients with ADHD also display correlations with higher rates of academic failures and transfers, lower incomes, higher rates of job loss and turnover, high rates of car accidents, and increased rates of divorce [7].

### DIAGNOSIS OF ADHD IN ADULTHOOD

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM) the symptoms of ADHD must have started prior to age 7, be age inappropriate, cause impairment in multiple domains and not be attributable to other conditions. The DSM diagnosis consists of three subgroups: (1) ADHD predominately inattentive; (2) ADHD predominately hyperactive-impulsive; and (3) ADHD combined type.

Diagnosing ADHD in adulthood for the first time is a complex affair. To satisfy the diagnostic criterion, the adult must exhibit 6 of the 9 listed DSM symptoms in at least one subtype and these symptoms must cause consistent and clinically significant impairment for at least 6 months or more [1].

A prior childhood diagnosis of ADHD is required for an adult diagnosis to be made. This information is not always easy to ascertain as such a history may not be present in high functioning and cognitively superior individuals, and/or people who experienced primarily inattentive subtypes of ADHD in childhood. It appears that in these individuals the impairment characteristic of ADHD may only become significant when supportive structures are removed and demands upon the individual escalate [8].

When diagnosing, the clinician should consider the following differential diagnoses that present similarly to ADHD: anxiety disorders, mood disorders, adjustment disorders, learning and language deficits, and some psychotic disorders as well as high levels of psychosocial stress. The following medical conditions could mimic ADHD: developmental disorders, seizure disorders (petit mal), sleep apnea, hearing and vision problems, thyroid disorders, lead poisoning, hypoglycemia, severe alcohol/drug abuse, and some medications. Possible co-morbid diagnoses include substance abuse and dependence, mood disorders, anxiety disorders, and personality disorders such as antisocial personality disorder and borderline personality disorder [9,10,11].

### TREATMENT OF ADULT ADHD

The management of adults with ADHD should ideally combine pharmacological and psychosocial treatments, as each modality will address a different aspect of the problem presentation.

#### Psychosocial Treatment

Adult ADHD patients experience a multitude of emotional and social difficulties such as: poor time management and organizational skills, impulsiveness, insufficient problem solving skills, academic and social failures, problems with self-esteem, difficulties maintaining relationships, temper outbursts, or potential antisocial behavior. As such, it is recommended that every psychotherapy intervention contain a psycho-educational component. This involves teaching patients about their disorder, including how ADHD affects different areas of their lives and relationships, how to recognize symptoms of ADHD, and how to better manage them. Psycho-education carries immense clinical and therapeutic benefits for treatment compliance, long-term adherence, and the patient's self-esteem (especially considering that such patients are frequently and unfairly regarded as lazy or less intelligent); especially when family members are included in the process.

### Individual Psychotherapy Intervention

Cognitive-behavioral therapy (CBT) is the most frequently used psychotherapeutic technique with adult sufferers of ADHD, given its promotion of self-controlled behavior and its enhancing self mediation and control strategies [2]. The rationale for its use is based on the concept that impulsive patients with ADHD would benefit from being taught to talk to themselves as a means of developing self-control. CBT for ADHD can be administered in individual or group format with the group derivative possessing some particular advantages. Group therapy provides an opportunity to meet people with similar problems, share information, and learn how others cope with their difficulties [13].

The conceptual model of ADHD [14] has been used to explain the potentially advantageous effect of CBT on ADHD. According to this model, stimulants have a direct impact on the neurobiological substrate of ADHD, whereas CBT affects the core psychological (behavioral and cognitive) features. Other nonspecific and more supportive psychosocial treatments influence peripheral or secondary features of ADHD, such as job or academic underachievement, inadequate social skills, and disturbed family relationships. Others hypothesize that patients' symptoms improve in psychotherapy because CBT effectively treats their co-morbid conditions (e.g. anxiety, depression) rather than the core symptoms of ADHD [15].

A number of studies have found clinically significant gains following a CBT intervention with regard to the primary ADHD symptoms as well as co-morbid occurrences of depression, anxiety, low self-esteem, poor organizational skills, and improved overall functioning [16, 17, 18, 19]. The execution and evaluation of a particularly comprehensive psychotherapy treatment regimen targeting psycho-education (ADHD symptoms, the neurobiology of ADHD and pharmacological treatment), organizational skills training, time

management, anger management, stress inoculation training, cognitive reframing, self-control and self-esteem, and relationship management is presently underway [20].

Family and/or Spousal Intervention  
Marital difficulties and impaired family functioning are common complaints of adults with ADHD [21]. Spouses who do not have ADHD usually complain that their partner is unreliable, messy, disorganized, forgetful, or a poor listener. Spouses also feel overburdened as they are by default tasked with sole responsibility for meeting household and family needs. Likewise, spouses think that the patient does not make sufficient effort in order to change his/her behavior. Therefore, psycho-education should include spouses and/or family members. This serves to cultivate the much-needed realization that a patient's behaviors are not the result of a lack of caring or mere willful misconduct [21]. Family therapists focus on how patterns of interaction maintain the family or marital problems rather than focusing exclusively on the individual patient.

### Pharmacological Treatment of Adult ADHD

ADHD medications can be divided into stimulants and non-stimulant medication. Long-acting stimulant preparations are recommended as they result in better patient compliance and longer-lasting, smoother improvement of symptoms [6].

#### Stimulant Medication

Stimulants include methylphenidate and amphetamine compounds. Stimulants are the most effective medications for the treatment of ADHD, with responsiveness rates in the 70 to 80 percent range [22]. Our knowledge of the exact mechanism of action of stimulant medications is unknown, however these agents are thought to block reuptake of norepinephrine and dopamine into the presynaptic neuron, thereby increasing extraneuronal catecholamines [23]. Stimulants have been shown to effectively alleviate the symptoms of ADHD, including

poor attention span, distractibility, impulsive behavior, hyperactivity, and restlessness. Stimulants also improve vigilance, cognition, reaction time, response inhibition, and short-term memory [24,25].

#### Methylphenidate

Methylphenidate (MPH) is administered orally with a starting dose of 10 mg for adults. A maximum dose for adults ranges from 80 to 108 mg a day; the recommended dose is 0.3-1.5 mg/kg/day, and higher doses of MPH lead to better therapeutic response rates [26]. There are three pharmaceutical formulations of methylphenidate: (1) immediate release or short-acting formulation (Ritalin), (2) sustained release or intermediate-acting methylphenidate (Ritalin SR), and (3) extended release or long-acting methylphenidate (Concerta, Biphentin, Ritalin LA). The release mechanism of Ritalin SR produces variable results making this preparation less useful. The main advantage of short-acting MPH products is their usefulness in situations where a supplement to the once daily medication is required or if the patient desires more flexibility over the dosing schedule [6].

#### Dextroamphetamine

Dextroamphetamine is a commonly used stimulant, which is currently available in three different formulations: (1) Immediate-release dextroamphetamine (Dexedrine), (2) Sustained-release dextroamphetamine (Dexedrine spansule), and (3) Extended-release mixed amphetamine salts (Adderell XR). Dextroamphetamine immediate-release has a short half-life of 4-6 hours and requires multiple dosages two or three times a day. Therefore, it may be considered a second-line agent for adults with ADHD. It is recommended in situations where supplement to the once daily medication is required or if the patients request more flexibility over the dosing schedule [27]. Starting dose for dextroamphetamine is 5 mg; recommended doses are 0.3 - 1.5 mg/kg with a maximum of 60 mg a day for adults, and it is quickly absorbed following oral administration [28].

#### Mixed amphetamine salts extended release (Adderall XR)

This formulation includes neutral salts consisting of 75 percent dextroamphetamine and 25 percent levoamphetamine, enclosed in a capsule containing long and short-acting beads [29]. It has an extended duration of action, which is said to last for a period of 10 to 12 hours. Mixed amphetamine salts XR is available in 6 dosages (5, 10, 15, 20, 25 and 30 mg). Fifty percent of the dose is immediately available resulting in significant improvement in symptoms in the morning without need for augmentation [27]. Mixed amphetamine salts XR has a good cardiovascular tolerability and may be administered in patients with mild hypertension who are on stable antihypertensive medication. The most common side effects are insomnia, decreased appetite and weight loss, headache, dry mouth, and nervousness [30].

#### Nonstimulant Medication

Despite stimulant medications' ability to control ADHD symptoms relatively well in most patients, there exists a small percentage (10 to 30 percent) who do not respond adequately to stimulant treatment or have intolerable side effects [31]. In such cases, non-stimulant medications are usually considered. Non-stimulant options for adults with ADHD primarily include atomoxetine and at times bupropion and tricyclic antidepressants. Non-stimulant medications are generally less effective in treating ADHD than stimulants [6].

#### Atomoxetine

Atomoxetine is a selective inhibitor of the presynaptic norepinephrine transporter that has shown efficacy in ADHD patients and is approved by the FDA for treatment of ADHD in children and adults in the United States [28]. The onset of action is slower than with stimulants and the maximum treatment effect may not be reached for several weeks. Atomoxetine is indicated for patients for whom stimulants are contraindicated, for patients with substance use disorders or tic disorders, or for those who

experience severe side effects with stimulant medications. Starting dose for atomoxetine is 0.5 mg/kg/day, increasing after 14 days to 0.8 mg/kg/day and then after another 14 days to 1.2 mg/kg/day. Maximum dose is less than 100 mg/day [27]. The most common side effects are nausea, decreased appetite (in 15 to 20 percent of patients), insomnia, slightly increased diastolic blood pressure and heart rate, decreased libido, sweating, and dysuria [32].

### Bupropion

Research indicates that bupropion is an inhibitor of dopamine and norepinephrine reuptake [33]. Starting dose is usually 150 mg per day, and maximum daily dosage is 450 mg per day, however some guidelines (Canada for example) recommend lower doses. Whilst bupropion is not yet FDA approved for treatment of ADHD, some suggest that it could be used as a second-line agent for uncomplicated ADHD and possibly a first-line agent in patients with comorbid substance use disorders and mood disorders [6]. Common side effects are headache, nausea, dry mouth, insomnia, sweating, and constipation. An important possible adverse event is the emergence of seizures [6].

### Tricyclic antidepressants

Tricyclic antidepressants appear to improve mood and decrease hyperactivity, however do not improve concentration and cognitive difficulty [34]. The most studied tricyclic antidepressant in the treatment of ADHD is desipramine as it seems to have fewer side effects than other tricyclics and has shown efficacy in the treatment of ADHD in adults, however less so than stimulants.

Desipramine is an active metabolite of the tricyclic antidepressant, imipramine. It selectively inhibits reuptake of norepinephrine at the presynaptic transporter, resulting in increased availability of norepinephrine [6]. Typical daily dose is 1.5-3 mg/kg commencing with a dose of 50 mg, and can increase every 7 days by 50 mg until the optimal benefits are seen

with a maximum dose of 300mg/day [34]. Side effects are similar to that of other tricyclic antidepressants including dry mouth, constipation, sweating, blurred vision, insomnia, decreased appetite, tachycardia, increased blood pressure, EKG changes (particularly prolonged QT interval), orthostatic hypotension, and drowsiness. Such adverse effects suggest possible cardiotoxic effects, and this limits the wider use of desipramine in the treatment of patients with ADHD [6].

### Clonidine

Clonidine is a  $\alpha_2$ -adrenergic receptor agonist that has a favourable effect on symptoms of hyperactivity and impulsivity but not inattention. Clonidine is considered as a second-line agent in the treatment of ADHD and may be useful in some patients with comorbidity, particularly in the treatment of patients with co-morbid ADHD and Tourette's syndrome and other tic disorders [28]. Common side effects are dry mouth, sedation, drowsiness, dizziness, and constipation [35].

### Conclusion

ADHD is a prevalent neurobiological condition accompanied by high rates of co-morbid diagnoses and significant social, emotional, and occupational impairments. Treatment options for adult ADHD are varied and extensive however, a multimodal bio-psychosocial approach to treatment is advocated as this appears most beneficial in targeting the symptom presentation on a number of fronts. Generally long acting stimulants are the most effective pharmacological treatment approach. Treatment should be augmented with psycho-education, family and/or spousal counseling, and individual psychotherapy of which cognitive-behavioural therapy appears most appropriate. Family practitioners are encouraged to engage multidisciplinary colleagues and refer appropriately for services beyond their scope of clinical practice.

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# Attention Deficit Hyperactivity Disorder

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## Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a behavioral disorder that features three characteristics: inattention, hyperactivity, and impulsivity. It can affect the child's academic, social, emotional, behavioral, and psychological development, depending on the seriousness of the disorder. The treatment starts basically with a behavioral modification plan, and if results are not up to expectations, medication is recommended parallel to the behavioral plan. These students are considered as having special needs, which is why individual educational plans are set to enhance their academic development at schools. Mozart, Bill Cosby, Henry Ford, and John F.Kennedy and lots of other pioneers in all fields were diagnosed as having ADHD, so being special can work to one's advantage in this life.

### What is attention deficit hyperactivity disorder?

Attention deficit hyperactivity disorder (ADHD) is one of the most common childhood disorders and can continue through adolescence and adulthood. Symptoms include difficulty staying focused and paying attention, difficulty controlling behavior, and hyperactivity (over-activity).

ADHD has three subtypes:

- 1- Predominantly hyperactive-impulsive
- 2- Predominantly inattentive
- 3- Combined hyperactive-impulsive and inattentive

Treatments can relieve many of the disorder's symptoms, but there is no cure. With treatment, most people with ADHD can be successful in school and lead productive lives. Researchers are developing more effective treatments and interventions, and using new tools, such as brain imaging, to better understand ADHD and to find more effective ways to treat and prevent it.

### What are the symptoms of ADHD in children?

Inattention, hyperactivity, and impulsivity are the key behaviors of ADHD. It is normal for all children to be inattentive, hyperactive, or impulsive sometimes, but for children with ADHD, these behaviors are more severe and occur more often. To be diagnosed with the disorder, a child must have symptoms for 6 or months and to a degree that is greater than other children of the same age.

Children who have symptoms of inattention may:

1. Be easily distracted, miss details, forget things, and frequently switch from one activity to another
2. Have difficulty focusing on one thing
3. Become bored with a task after only a few minutes, unless they are doing something enjoyable
4. Have difficulty focusing attention on organizing and completing a task or learning something new
5. Have trouble completing or turning in homework and assignments, often losing things (e.g., pencils, toys, assignments) needed to complete tasks or activities
6. Not seem to listen when spoken to
7. Daydream, become easily confused, and move slowly
8. Have difficulty processing information as quickly and accurately as others
9. Struggle to follow instructions

Children who have symptoms of hyperactivity may:

1. Fidget and squirm in their seats
2. Talk nonstop
3. Dash around, touching or playing with anything and everything in sight
4. Have trouble sitting still during dinner, school, and story time
5. Be constantly in motion
6. Have difficulty doing quiet tasks or activities.

Children who have symptoms of impulsivity may:

1. Be very impatient
2. Blurt out inappropriate comments, show their emotions without restraint, and act without regard for consequences
3. Have difficulty waiting for things they want, or waiting their turn in games
4. Often interrupt conversations or others' activities.

### ADHD Can Be Mistaken for Other Problems

Parents and teachers can miss the fact that children with symptoms of inattention have the disorder because they are often quiet and less likely to act out. They may sit quietly, seeming to work, but they are often not paying attention to what they are doing. They may get along well with other children, compared with those with the other subtypes, who tend to have social problems. But children with the inattentive kind of ADHD are

not the only ones whose disorders can be missed. For example, adults may think that children with the hyperactive and impulsive subtypes just have emotional or disciplinary problems.

### What Causes ADHD?

Scientists are not sure what causes ADHD, although many studies suggest that genes play a large role. Like many other illnesses, ADHD probably results from a combination of factors. In addition to genetics, researchers are looking at possible environmental factors, and are studying how brain injuries, nutrition, and the social environment might contribute to ADHD.

### How is ADHD diagnosed?

Children mature at different rates and have different personalities, temperaments, and energy levels. Most children get distracted, act impulsively, and struggle to concentrate at one time or another. Sometimes, these normal factors

may be mistaken for ADHD. ADHD symptoms usually appear early in life, often between the ages of 3 and 6, and because symptoms vary from person to person, the disorder can be hard to diagnose.

### How is ADHD treated?

Currently available treatments focus on reducing the symptoms of ADHD and improving functioning. Treatments include medication, various types of psychotherapy, education or training, or a combination of treatments.

### Medications

Several different types of medications may be used to treat ADHD:

- Stimulants are the best-known treatments - they've been used for more than 50 years in the treatment of ADHD. Some require several doses per day, each lasting about 4 hours; some last up to 12 hours. Possible side effects include decreased appetite, stomach-ache,



A drawing that shows the condition of an ADHD student in the classroom.



A drawing that shows the inability of an ADHD student to realize his or her surroundings.

irritability, and insomnia. There is currently no evidence of long-term side effects.

- Non-stimulants were approved for treating ADHD in 2003. These appear to have fewer side effects than stimulants and can last up to 24 hours.

- Antidepressants are sometimes a treatment option; however, in 2004 the U.S. Food and Drug Administration (FDA) issued a warning that these drugs may lead to a rare increased risk of suicide in children and teens. If an antidepressant is recommended for your child, be sure to discuss these risks with your doctor.

For many children, ADHD medications reduce hyperactivity and impulsivity and improve their ability to focus, work, and learn. Medication also may improve physical coordination.

### Psychotherapy

Different types of psychotherapy are used for ADHD. Behavioral therapy aims to help a child change his or her behavior. It might involve practical assistance, such as help organizing tasks or completing schoolwork, or working through emotionally difficult events. Behavioral therapy also teaches a child how to monitor his or her own behavior. Learning to give oneself praise or rewards for acting in a desired way, such as controlling anger or thinking before acting, is another goal of behavioral therapy. Parents and teachers also can give positive or negative feedback for certain behaviors. In addition, clear rules, chore lists, and other structured routines can help a child control his or her behavior.

Therapists may teach children social skills, such as how to wait their turn, share toys, ask for help, or respond to teasing. Learning to read facial expressions and the tone of voice in others, and how to respond appropriately, can also be part of social skills training.

### Alternative Treatments

Currently, the only ADHD therapies that have been proven effective in scientific studies are medications and behavioral therapy. But specialists may recommend additional treatments and interventions depending on the child's symptoms and needs. Some children with ADHD, for example, may also need special educational interventions such as tutoring, occupational therapy, etc. Every child's needs are different.

A number of other alternative therapies promoted and tried by parents include: megavitamins, body treatments, diet manipulation, allergy treatment, chiropractic treatment, attention training, visual training, and traditional one-on-one "talking" psychotherapy. However, scientific research has not found them to be effective, and most have not been studied carefully, if at all.

### Education

Children with ADHD are eligible for special services or accommodation at school under the Individuals with Disabilities in Education, and an anti-discrimination, law. An individual educational plan (IEP) should be set that realizes the student's points of strength and weakness, and assures his/her academic development. This IEP has to be worked out in collaboration of all the specialists who work with the child (family doctor, pediatrician, psychologist, psychotherapist, educational counselor, speech therapist, psychomotricity specialist, occupational therapist, special education teacher, etc).

In addition to using routines and a clear system of rewards, here are some other tips for classroom success:

- Reduce seating distractions. Lessening distractions might be as simple as seating your child near the teacher instead of the window.
- Use a homework folder for parent-teacher communications. The teacher can include assignments and progress notes, and you can check to make sure all work is completed on time.

- Break down assignments. Keep instructions clear and brief, breaking down larger tasks into smaller, more manageable pieces.
- Give positive reinforcement. Always be on the lookout for positive behaviors. Ask the teacher to offer praise when your child stays seated, doesn't call out, or waits his or her turn instead of criticizing when he or she doesn't.
- Teach good study skills. Underlining, note taking, and reading out loud can help your child stay focused and retain information.
- Supervise. Check that your child goes and comes from school with the correct books and materials. Sometimes children are paired with a buddy to help them stay on track.
- Be sensitive to self-esteem issues. Ask the teacher to provide feedback to your child in private, and avoid asking your child to perform a task in public that might be too difficult.
- Involve the school counselor or psychologist. He or she can help design behavioral programs to address specific problems in the classroom.

### Parents Role

Children with ADHD need guidance and understanding from their parents and teachers, to reach their full potential and to succeed in school. Before a child is diagnosed, frustration, blame, and anger may have built up within a family. Parents and children may need special help to overcome bad feelings. Mental health professionals can educate parents about ADHD and how it impacts a family. They also will help the child and his or her parents develop new skills, attitudes, and ways of relating to each other.

Parenting skills training helps parents learn how to use a system of rewards and consequences to change a child's behavior. Parents are taught to give immediate and positive feedback for behaviors they want to encourage, and ignore or redirect behaviors they want to discourage. In some cases, the use of "time-outs" may be used when the child's behavior gets out of control. In a time-out, the child is removed from the upsetting situation and sits alone for a short time to calm down.

Parents are also encouraged to share a pleasant or relaxing activity with the child, to notice and point out what the child does well, and to praise the child's strengths and abilities. They may also learn to structure situations in more positive ways. For example, they may restrict the number of playmates to one or two, so that their child does not become over stimulated. Or, if the child has trouble completing tasks, parents can help their child divide large tasks into smaller, more manageable steps. Also, parents may benefit from learning stress-management techniques to increase their own ability to deal with frustration, so that they can respond calmly to their child's behavior.

Sometimes, the whole family may need therapy. Therapists can help family members find better ways to handle disruptive behaviors and to encourage behavior changes. Finally, support groups help parents and families connect with others who have similar problems and concerns. Groups often meet regularly to share frustrations and successes, to exchange information about recommended specialists and strategies, and to talk with experts.

What conditions can coexist with ADHD?

Some children with ADHD also have other illnesses or conditions. For example, they may have one or more of the following: Learning disability, Oppositional defiant disorder, Conduct disorder, Anxiety and depression, Bipolar disorder, Tourette syndrome.

ADHD may also coexist with sleep disorders, bed-wetting, substance abuse, or other disorders or illnesses.

Recognizing ADHD symptoms and seeking help early will lead to better outcomes for both affected children and their families. Moreover, it is very important as parents, specialists, and teachers to keep in mind that we are dealing with a child who has a disorder. This will let us recognize the simplest improvement in his or her behavior which we can build on, or invest in further development.

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# A Study of the nature and extent of accompanying handicaps in the mentally challenged

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## Introduction

According to the definition given by the American Association of Mental Retardation (AAMR), the term mental retardation refers to substantial limitation in present functioning, characterized by significant and sub-average intellectual functioning, existing concurrently with related limitations in two or more adaptive skills or areas like communication, home living, community life, health and safety, leisure, self care, social skills, functional academics and work. The manifestation of mental retardation is before the age of 18 years. Thus the general impairment in intellectual functioning is in concurrence with deficits in adaptive behavior. NIMH Secunderabad defines adaptive behavior as the effectiveness or degree with which the individual meets the standards of personal independence and social responsibility expected for his/her age and cultural group. In case of persons with mental retardation there is a significant lag or deficit in general maturation, and major limitations in academic learning, personal independence and social responsibility. The deficits in adaptive behavior are seen in infancy and childhood in the areas of sensory and mental skill development, communication skills, language development, self help skills, and socialization. During childhood and adolescence the

deficit in adaptive skill is reflected in academic skills, reasoning, judgment of environment, social skills, and vocational responsibilities. The mentally challenged along with mentally retarded persons experience such accompanying handicaps. These are in the form of visual impairment, speech and hearing defects, physical handicaps, and deformities. The more the degree of retardation, the greater is the likelihood of accompanying handicaps. The prevalence of these disorders are at least three or four times greater among people with mental retardation than in the normal population.

Such multiple handicaps have negative effects on the personality of the mentally challenged. They exhibit traits like passivity, dependency, low self-esteem, poor impulse control, self-stimulating or self-injurious behavior, and hyper activity.

Due to such disturbing traits in their personal, social, family, and classroom environments they are seriously affected, and thus creates problems of coping within their environment. The teachers at school and the caregivers at home find them unmanageable, dependant, and trouble makers. There is the serious problem of their management and day to day living.

For training and handling such mentally challenged persons with their accompanying handicaps the teachers need to possess skills to cater to the needs which arise from multiple handicaps. The parents and caregivers at home need to alter the home environment to suit the additional and special needs of the multiply handicapped child.

The Persons With Disability Act (PWD Act of 1995) spells out the responsibility of the state towards people with disabilities. Protection of the rights of the disabled population, include providing medical care, education, training, employment, and rehabilitation for persons with disabilities, and to create a barrier free and accessible environment to such persons.

In view of all this an attempt was made, in the present research to study the extent of accompanying multiple handicaps among the mentally challenged; to investigate the problems faced by the special teachers while imparting training and rehabilitation programs to such subjects; to study the problems faced by their parents and their caretakers in their management at home; to study the efforts taken by these special teachers and parents to overcome these handicaps, to equip and sensitise the teachers and the parents towards the needs and the conditions of the persons with multiple handicaps.

## Methodology

The following Methodology was used to collect the data for the present study.

A sample selection of the children attending the special school of Kamayani Vidya Mandir and the persons with mental retardation attending the vocational training Sheltered workshop of Kamayani, formed the sampling for the study.

**Method of sample selection :**

A random method of sampling was used and the subjects were selected on the basis of availability, randomly, irrespective of whether they possessed the accompanying handicaps or not, in order to study the extent of accompanying multiple handicaps among the mentally challenged.

**Sample Size :**

65 subjects both from the special school and sheltered workshop of Kamayani were selected as the sample for the study.

**Tools of Data Collection :**

The data was collected by formulating structured questionnaires specifically for the special teachers and the parents.

The relevant data was collected from the school files and records. The data thus collected was reviewed and is presented in the following manner.

**Data Analysis:**

The study was aimed at highlighting the percentage of mentally challenged subjects who possessed accompanying handicaps. The distribution of the data is presented in the following Table:.

Sr. No.	Accompanying handicap	Frequency	Percentage
1	Yes	48	73.84
2	No	17	26.16
Total		65	100.00

**Table1: Accompanying Handicaps**

It was evident from the above Table that 73.84 % of the subjects possessed accompanying handicaps along with mental retardation. These handicaps varied from speech, hearing and locomotion problems and also physical handicaps. Only 26.16 % of the subjects did not possess any other handicap along with mental retardation.

**Type of Accompanying Handicap**

The nature and type of handicaps possessed by the subjects is depicted the Table 2.

Sr. No.	Type of Handicap	Frequency	Percentage
1	No accompanying handicap	17	26.16
2	Vision defects	5	7.69
3	Speech Problems	52	49.23
4	Locomotion defects	5	7.69
5	Physical Handicap	6	9.23
Total		65	100.00

**Table 2**

It is evident from the above Table that 26.16 % of the subjects did not possess any other handicap, whereas 49.23% of the subjects possessed speech problems. The speech disorders manifested in the form of unclear, impaired speech, inability to form a sentence, slow talking, stammering, and stuttering. 7.69% of the subjects had vision disorders which were manifested in the form of weak vision, detachment of retina. 7.69% of the subjects had locomotion disorders which were related to disorders in Down syndrome. 9.23% of the subjects had physical handicaps which had affected their limbs.

Effect of multiple handicaps on the functional skills and personality development of the Mentally Retarded (MR).

The presence of multiple handicaps along with mental retardation affected the functional skills of the MR.

An effect was made in the present research to study the extent to which the multiple handicaps affected the functional skills and overall personality development of the MR. This is depicted in the following table.

Sr. No.	Value label	Frequency	Percentage
1	Yes	42	87.05
2	No	6	12.05
Total		48	100.00

**Table 3**

It is evident from the above table that in the case of 48 subjects who possessed an accompanying handicap along with MR in the case of 87.05% subjects the multiple handicaps affected their functional skills and overall personality development. The physical handicap and the locomotion defects prevented these children from participation in several class activities. They could not sit properly, could not walk independently, some of them could not climb up and down the stairs. Their slow physical management prevented them from participating in several vocational activities like tailoring, handloom and book-binding. Those who had speech problems found it difficult to communicate. The subjects with weak vision could not learn many functional skills. In the case of 12.05% the teachers found that their multiple handicaps did not affect their functional skills. The accompanying handicaps were minor if they learned affirmative skills, which they could perform.

**Accompanied handicaps presenting with age**

An effect was made in the present study to find out whether the accompanied handicap worsened as the age of the subjects progressed. This is depicted in the following table.

Sr. No.	Value label	Frequency	Percentage
1	Yes	18	37.50
2	No	30	62.50
Total		48	100.00

**Table 4**

It was evident from the data distribution in the above table that in the case of 62.5% the subjects, the accompanying handicap did not show how much deterioration with advancement in physical age. This may be due to the fact that the subjects were still young or their participation in the school activities, such as like physical exercise, physics therapy, and speech therapy did not cause deterioration of their handicap. Whereas in the case of 37.5% of the subjects, they showed deterioration in their handicap as their age advanced. This may be the case with the subjects above the age of 35-40 years. Where the effects of aging, weakening of bone structure and muscle tone starts early among the mentally challenged persons.

In the present research an attempt was made to study whether the special approach was made for students or whether the special teachers gave any specific therapy on the subject or continued the lessons given by the physio- and speech therapists.

Sr. No.	Value label	Frequency	Percentage
1	Yes	48	100.00
2	No	0	0
Total		48	100.00

**Table 5: Therapy by teachers**

It was evident from the above table that in the case of 100% of the subjects, their special teachers executed sense therapy for the subjects. In the case of subjects with speech problems the teachers continued the instruction given by the speech therapist. They made the subjects undergo breathing exercises. The subjects with locomotion and physical handicap were given the exercises suggested by the physiotherapist such as climbing the staircase, yoga, cleaning the classroom with a broom, riding of a bicycle. Apart from the exercises given by the therapists the special teachers who had designed several simple devices for blowing and the building of muscular strength, which they executed in their respective classes during the day. This definitely helped the adaptive skills of the subjects and also protected them from deterioration of their accompanying handicap as their age advanced.

The parents of the subjects were also interviewed by preparing the separate questionnaires. An attempt was made to study if the parents during their early childhood or before joining the special school of Kamayani, had undertaken any efforts, given any therapies or treatment to for the accompanying handicap of their mentally challenged ward.

An attempt was also made to study whether the parents had created special conditions at home or have altered the home environment to create a barrier free environment for their child with multiple handicaps. This is depicted in the following tables.

Sr. No.	Value label	Frequency	Percentage
1	Yes	40	61.54
2	No	25	38.46
Total		65	100.00

**Table 6: Therapeutic treatment by parents**

It was evident from the above table that 61.54% of the parents had given some form of therapeutic treatment to their mentally challenged child irrespective of the accompanying handicap. The treatment included all naturopathy treatment from various providers, Ayurvedic treatment, Homeopathy, oil massage, physiotherapy, speech therapy, occupational therapy, yoga, and in some cases shock treatment also. The study revealed that the parental attempts were for correcting or treating the mental retardation as an illness. As a result most of them gave up, as they did not get positive results. Whereas 38.46% of the parents did not give any therapeutic treatment to their mentally challenged ward, either it was given late, it was deemed not a necessity, or would be useless.

Sr. No.	Value label	Frequency	Percentage
1	Yes	17	26.15
2	No	48	73.85
Total		65	100.00

**Table 7: Alterations in the home environment**

It is evident from the above table that 73.85% of the parents did not make and have not made any alterations, changes in the home environments, as either they did not feel them necessary or their mentally challenged child adjusted to the existing conditions, whereas only 26.15% of the parents made alterations to the physical conditions at home.

The alterations in the home environment have been made in the form of buying a house on the ground floor, or constructing a bungalow of their own to suit the physical needs of the multiply disabled child. Some of the parents have altered the toilets and lavatories to suit the special needs of their challenged child; in some houses the stairs are made with a special railing, rooms are made without door boundaries, some parents have provided a simple music system, for their challenged child. In such different ways, some of the parents have tried to give a barrier free, suitable home environment to their multiply challenged child.

Sr. No.	Parental plans of future	Frequency	Percentage
1	Arrangement of premiums	25	38.46
2	Savings	25	38.46
3	Self employment for MR	5	7.70
4	Not thought of	10	15.38
Total		65	100.00

**Table 8: Parental planning for the future of their mentally challenged ward**



It was evident from the Table that the 76.86% of the parents had made the financial arrangement for their mentally challenged ward in the form of pension or savings, and fixed deposits. Thus they had tried to provide financial security to their mentally challenged ward. 7.70% of the parents said that they would prepare their mentally challenged ward for simple self employment like work at a flour mill, small grocery or stationary outlet, it was surprising to note that 15.38% of the parents had not thought of any future plans for their mentally challenged ward.

## Conclusion and Recommendation

Mental retardation is a significant impairment of intellectual functioning accompanied by a deficit in adaptive behavior. Intellectual impairment together with deficit in adaptive behaviors incapacitates the persons with mental retardation to perform their social, and physical tasks as expected of him. As a result they develop a positive, dependant attitude. They also demonstrate abnormalities like aggression attention seeking, self injurious trails, if the mental retardation is accompanied with multiple handicaps such as vision impairment, speech and hearing defects, physical and locomotion handicaps then the problems of training and management of the mentally challenged are of greater strength.

The teachers must have necessary skills and techniques to deal with persons with multiple handicaps. Parents and caregivers alone face the problems of management of time and environmental modification in the home. The present study underlined the fact that around 70% of the mentally challenged possessed other accompanying handicaps. The percentage of speech problems and language problems is much more than any other handicap among the studied persons with mental retardation.

It was satisfying to note that the special teachers from Kamayani Vidya Mandir, Gokhale Nagar gave regular therapeutic exercises to

their subjects. This included mouth blowing exercises, word formation games, physical therapy activities, climbing the stairs, giving sweeping and cleaning activities to their subjects, not only game therapeutic activities for the physically handicapped but also game activities for the subjects with behavioural and psychological abnormalities and worked continuously to improve the social skills, emotional skills, adaptive skills, and communication skills of the subjects, The efforts of the special teachers were prolonged and continuous, which reflected in the health of the subjects. The study found that in the majority of the cases the handicap of the subjects had not worsened with the advancement in physical age.

The study proved that the multiple handicaps of the mentally challenged subjects affected their functional skills. They could not participate in many training activities. They could not do many allied activities involved in the vocational training such as stitching on the sewing machine, threading the needle, handloom, different Binding, activities. They could be taught only the simplest tasks. But the special teachers tried to find alternative ways and means to train and rehabilitate the children with multiple handicaps. The study showed that the efforts of the parents were limited to the earlier developmental period of their challenged child. Afterwards they seemed to have lost interest, and patience, in providing extra therapeutic treatment to their multiply disabled mentally challenged child.

The study showed that not many parents realized the importance of a barrier free environment and free accessibility at home. The future planning of the parents for the subjects seemed to be confined to making financial arrangements, and pensions for their mentally challenged wards.

To handle persons with mental retardation and multiple handicaps more effectively, a multi disciplinary approach is very much necessary. A team of Neuro pediatricians, a Psychologist, Physiotherapist, Occupational therapist, speech and

language pathologist, Audiologist, special educator, a social worker and a psychiatrist should work together on individualized programs for multiply handicapped persons. Multi disciplinary approaches would not only cover all the aspects of the handicapped, but would also help the family to want a cohesive and supportive unit for the benefit of the challenged person. The special needs of the M R and the family can be encountered in the areas of Early identification, complete assessment, prompt treatment of anything that is treatable, favorable social setting, appropriate time management, Training and effective rehabilitation, Follow up and continuous assessment. Family guidance supports.

The parental awareness also needs to be increased in the areas of natural needs and conditions of mental retardation. Measures such as parental counseling session, support groups, giving information on recent technological advancements for the challenged, will not only work to boost the confidence of the parents in parenting of the multiply challenged child but would also provide the person with mental retardation an educationally stimulating home environment, family harmony, and quality parenting for the challenged persons. This will not only increase the chances for the community challenged, but will also give them a chance to lead a life of a worthy citizen of the society.

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# Intimacy in Iranian married couples: The effect of Group Cognitive Behavior Couple Therapy (GCBCT)

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## Introduction

Intimacy is valued in marriage because it solidifies a couples' commitment to sustain the relationship and is positively associated with marital well-being and marital adjustment (Heller & Wood, 1998). Intimacy problems are a major source of marital difficulties. Although some couples may not specifically target intimacy as a critical issue in their marriage, but often identify some intimacy components (emotional, psychological, intellectual, sexual, physical, social-recreational, aesthetic and spiritual intimacy) has been a problematic issue for them when they were asked to complete standardized measures of marital quality, satisfaction, or adjustment (Bagarozzi, 2001).

Geiss and Oleary (1981) reported that 55% of couples who come to counseling centers identify lack of romantic and intimate feelings as their problems. Many studies indicate that among the three components of Strenberg's theory of love, which are intimacy, passion, and commitment; intimacy is the most correlated with marital satisfaction (Lemix & Hale, 2002).

Lack of intimacy is an important sign of distressed relationships. Intimacy refers to the occurrence of interaction between the partners that leads them to feel close, loving, and cared for. There is a diversity of ways in which intimacy is developed. For some people intimacy is felt most intensely when self-disclosing intimate feelings, for others, when sharing positive experiences, and for others when having sex (Halford, 2003).

Intimacy is based on mutual trust and respect. Therefore each partner must feel secure when disclosing his or her feelings and thoughts without any fear of being judged, evaluated, or ridiculed (Bagarozzi, 2001).

## Abstract

**Objectives:** Intimacy in romantic relationships is important because it makes a couple's commitment more stronger. Also marital intimacy is a reliable prediction of marital satisfaction. In this study we investigate Iranian intimacy patterns and the effectiveness of Group Cognitive Behavior Couple Therapy (GCBCT) on increasing marital intimacy among Iranian married couples.

**Method:** In a quasi experimental study with pre-post test and control group design of 12 couples (24 participants) who were referred to counseling centers in Tehran were randomly selected and participated in the study. The participants were divided into experimental and control group. The experimental group attended a 10 session GCBCT. Both groups answered the Bagarozzi Intimacy Needs Survey Questionnaire (2001) before and after the therapy and the answers were analyzed by analysis of covariance.

**Results:** The analysis indicated that GCBCT in general increased marital intimacy among Iranian couples. It improved the emotional, psychological, intellectual, sexual, physical, and Social-recreational intimacy

( $P < 0/05$ ), but aesthetic intimacy and spiritual intimacy did not change much ( $P < 0/05$ ).

**Discussion:** Bringing several couples together as a "couple group" and using Cognitive-Behavior Couple Therapy techniques to work on a common problem such as lack of intimacy in marriage is beneficial because interactions in a group help couples to get feedback from others and increases the intimacy among them and helps them to experience a better life

**Key words:** Group Cognitive Behavior Couple Therapy (GCBCT), marital intimacy, Iranian married couples

Cognitive Behavioral Couple Therapy (CBCT) refers to cognitive therapy sessions that focus on the couples and their inter-personal relationship and helps them to solve their problems; at the same time it supplies the couple with behavioral strategies which can help them to come up with possible future complexities (Ahmadi, 2009). In Couples group therapy it is far more enlightening and potent for a couple to see its own interacting patterns acted out by another couple than to hear a therapist merely comment on the same behavior, with no one else present (Goldenberg & Goldenberg, 2008).

As intimacy has an important role in shaping marital relationships and cognitive-behavior couple therapy enhances couples relationships, this study will investigate the effectiveness of Group Cognitive Behavior Couple Therapy on increasing marital intimacy among Iranian couples.

## Materials and Method

The study was done in a quasi experimental fashion with pre-post test and control group design. Iranian couples who were referred to counseling centers of Tehran were enrolled in this research by publishing a public statement. The inclusion criteria were: being married for at least one year, educated at least at elementary level, interest in participating by both wife and husband, dissatisfaction of intimate relationships, no psychiatric disorder history, no substance use and no cognitive impairment. 12 couples (24 participants) were randomly selected and participated in the study. The participants were divided into experimental and control group. Pre-test was performed for both groups at the same time. The experimental group attended 10 sessions of GCBCT. Both groups answered the Bagarozzi Intimacy Needs Survey Questionnaire (2001) before and after the therapy and the answers were analyzed. Bagarozzi Intimacy Needs Survey Questionnaire (2001) consists of 41 questions which provide a total score of intimacy, and 8 factors of which are Emotional Intimacy, Psychological Intimacy,

Intellectual Intimacy, Sexual Intimacy, Physical Intimacy, Spiritual Intimacy, Aesthetic Intimacy, Social-Recreational Intimacy.

Hypotheses of this research were: 1) Cognitive Behavior Couple Therapy increases total score of intimacy among Iranian couples; 2) Cognitive Behavior Couple Therapy increases measure of eight factors of intimacy. Analysis of covariance has been performed to evaluate the efficacy of intervention and all answers were analyzed in SPSS.

## Results

Level of education in experimental and control groups were compared by Chi-square test and there was no significant difference ( $P=0.881$ ). Age and marriage duration were compared by using independent T-test and there was no significant difference regarding age ( $P=0.555$ ) and marriage duration ( $P=0.319$ ) between the two groups.

Considering the outcome of analysis of covariance which is shown in Table 1 (next page); after controlling pre test scores, F score for total Intimacy, Emotional Intimacy, Psychological Intimacy, Intellectual Intimacy, Sexual Intimacy, Physical Intimacy, and Social-Recreational Intimacy is significant and shows that Group Cognitive Behavior Couple Therapy (GCBCT) increases marital intimacy and six aspects of intimacy among Iranian married couples with significance values of  $P<0.05$ .

The results also indicated that F score of Spiritual Intimacy and Aesthetic Intimacy is not significant at  $P<0.05$ .

Couple therapy or couple's counseling is a useful modality of help for couples who are experiencing difficulties such as repetitive arguments, feelings of distance or emptiness in the relationship, pervasive feelings of anger, resentment and or dissatisfaction or lack of interest in affection or in a physical relationship with one another. Intimacy also has been an important issue in the therapy. In this study the GCBCT as an intervention for increasing the intimacy in married couples had three distinct parts: cognitive interventions,

behavioral-communication interventions, and finally problem solving education. From the results, the significant issues related to each part of intervention will be discussed.

Cognitive Interventions - A considerable percent of total treatment sessions of this study was focused on revision of incorrect beliefs and cognitions. It seems that such cognitive revisions caused obviation of misunderstanding, reduction of annoyance and anger, and attention to positive aspects of behavior. All these changes finally caused increase of marital intimacy. As Epstein (2002) believes that for couple therapists, understanding of each partner's standards and beliefs about an intimate relationship and also realization of these standards in reciprocal relationships, is very important.

The couple's self-disclosure is changed noticeably because of cognitive interventions. Self-disclosure is an important factor which causes marital intimacy and therefore increasing level of self-disclosure is useful in increasing level of marital intimacy.

The cognitive interventions helped couples to decrease their cognitive distortions such as mind reading, foretelling, negative labeling, and dichotomous thinking. So by these cognitive corrections couples could show more acceptance and mutual understanding in response to their partner's self-disclosure. Regarding the role of self-disclosure in marital intimacy this study confirms results of research by Gordon (2006) and Grinker (2004).

Finally regarding the research by Griff & Malherb (2001), marital satisfaction and marital intimacy are significantly correlated, so by cognitive interventions we helped increase marital satisfaction and consequently marital intimacy. Behavioral Interventions and Communication Techniques - Educating on effective communication is a common component in Cognitive Behavior Couple Therapy which helps couples to learn communication skills and improve their positive behaviors.

	Source	Sum of squares	Mean squares	F	P value
<b>Total Intimacy</b>	Pre test	1208.57	1208.57	49.76	0.001
	Intervention	6082.97	6082.97	250.47	0.001*
<b>Emotional Intimacy</b>	Pre test	29.7	29.7	4.86	0.03
	Intervention	89.08	89.08	14.6	0.001*
<b>Psychological Intimacy</b>	Pre test	21	21	3.93	0.061
	Intervention	156.1	156.1	29.2	0.001*
<b>Intellectual Intimacy</b>	Pre test	34.72	34.72	12.82	0.002
	Intervention	221.47	221.47	81.79	0.001*
<b>Sexual Intimacy</b>	Pre test	0.54	0.54	0.13	0.713
	Intervention	106.72	106.72	27.12	0.001*
<b>Physical Intimacy</b>	Pre test	23	23	4.92	0.038
	Intervention	159.39	159.39	34.09	0.001*
<b>Spiritual Intimacy</b>	Pre test	6.32	6.32	1.36	0.255
	Intervention	13.65	13.65	2.95	0.1
<b>Aesthetic Intimacy</b>	Pre test	66.75	66.75	23.29	0.001
	Intervention	11.16	11.16	3.89	0.062
<b>Social-Recreational Intimacy</b>	Pre test	0.901	0.901	0.304	0.587
	Intervention	56.35	56.35	19.01	0.001*

\* P<0.05

**Table 1: Analysis of covariance for effectiveness of GCBCT on increasing marital intimacy**

Most couples in the study were not satisfied with their marital intimacy mentioning that they are suffering from “weak communication”. In this study we educated skills like speaking and listening effectively, types of messages and differences between them. By this intervention couples learned to express their thoughts, feelings, needs and wishes clearly and effectively and thereby they experienced much more closer and intimate relationships. Kingsley & Elizabeth (1990); Lippert & Prager (2001); and Stevense (2005) investigated correlation between communication skills and intimacy and concluded there is a positive correlation between them.

Also the behavioral interventions caused more positive and interesting behavior exchanges and less negative behaviors and punishment, which

consequently caused more intimacy and less dissatisfaction.

**Problem Solving Education**

By educating problem solving we helped couples to solve their unsolved problems which had caused negative feelings and attitudes toward their partners. We helped couples to learn to discuss with each other effectively and exchange their information to solve their problems. It seems because of learning problem solving, conflicts and negative exchanges between couples reduced and thereby marital intimacy is increased.

In general, It seems bringing several couples together as a “couple group” to work on a common problem such as lack of intimacy in marriage is beneficial because interactions in groups help couples to get feedback from others

and receive supportive reactions and feel sympathy. These characters probably help us to reach a better outcome in therapy and increase the intimacy among Iranian couples and help them to experience a better life.

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