# Outcome Measure in a Child and Adolescent Mental Health Service in GCMHP Clinics

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**Abstract**

**Objective:** *to examine the usefulness of the Strengths and Difficulties Questionnaire (SDQ) as an outcome measure for children referred to Gaza Community mental Health Program Clinics*

**Methods:** *This was a prospective study of new attendees to Gaza Community Mental Health Centers (N = 54). Questionnaires were completed by parents at initial attendance and after approximately 1 month.*

**Results:** *At 1-month follow up, positive change was detected on the SDQ There was a significant reduction in the 'total difficulties' score as rated by parents. Furthermore, there were lowered levels of perceived difficulties and burden on the SDQ impact supplement, and a decrease in the overall impact score.*

**Conclusion:** *The SDQ is a useful outcome measure.*

**Key words:** *Child, adolescent, SDQ, parents, outcome.*

## Introduction

In mental health, the assessment of interventions has been hindered by inadequate outcome measures. However, this limitation has been recently addressed with the development of Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1999). Several behavioural and emotional screening questionnaires have been used in child psychiatric epidemiological research. In order to identify children's positive aspects in addition to their weaknesses, Goodman developed the Strengths and Difficulties Questionnaire (SDQ) in 1997. The SDQ covers common forms of child and adolescent psychopathology including emotional, hyperactivity and conduct problems. Despite its brevity, the English-language versions of the SDQ have been shown to be of acceptable reliability and validity, performing at least as well as the Rutter Questionnaires and the Child Behaviour Checklist. (Goodman, 1997; Goodman et al., 1998; Goodman and Scott, 1999; Koskelainen et al., 2000; Goodman, 2001). In a large British study (n = 7984) of 5–15 year olds in a community setting, multi-informant SDQs (parents, teachers, older children aged 11 or over) detected psychiatric disorders with a specificity of

95% and a sensitivity of 63% (Goodman et al., 2000). Furthermore, the SDQ offers a better coverage of inattention, peer relationships and prosocial behaviour. A single form is suitable for both parents and teachers, which is likely to increase parent-teacher correlations (Goodman, 1997).

The Strengths and Difficulties Questionnaire (SDQ) is a brief questionnaire developed by Goodman [5] for assessing the psychosocial adjustment of children and adolescents. Versions are available for parents and teachers of 4- to16-year-olds, and a nearly identical version can be completed independently by 11- to 16-years olds. The SDQ differs from related instruments in that: (a) it is very short, with 25 items that are divided into five scales: emotional symptoms, conduct problems, hyperactivity- inattention, peer problems and prosocial behaviour; (b) the items concern both strengths and difficulties; and (c) all items fit on one page. These properties may enhance the acceptability for respondents and, consequently,

The response rate and the accuracy of the answers. The SDQ has been translated into more than 40 languages in recent years including the Arabic (Thabet and Vostanis, 2000) (see www.sdqinfo.com), reflecting the field's current need for an economic and user-friendly instrument like this. However, the very properties of the SDQ also have some drawbacks, as only some of the problems that may be assessed in clinical populations or in epidemiological studies are represented in the questionnaire. The aim of the present study was to assess the usefulness of the SDQ as an outcome measure as a part of monitoring system of Gaza Community Mental Health Program following clinical intervention (approximately 1 months after initial referral).

## Study design

The present study was a prospective child mental health service evaluation, assessing emotional and behavioural outcomes in the children rated by parents.

### Subjects

The first assessment sample consisted of 54 children aged 6-15 years in the first half year of 2008, 2 children data was missing. According to the clinic place, 55.8% of children were from Gaza Center, 27.4% from Bear El Balah, and 16.8% from Khan Younis cente. The mean age of the sample was 9.58, SD =3.08

## Procedure

### Method

A multidisciplinary child and adolescent mental health team.

in Gaza Community Mental Health Centers, administered the SDQ routinely to parents prior to the first clinic attendance. The diagnoses generated by the SDQ algorithm were compared with the diagnoses of clinicians, replicating the methodology used by Goodman et al (2000).

Data were collected over 6 months starting from January 2008 to June 2008 in the Gaza Strip. Due to the small number of children presenting to Gaza Community Mental Health Centers, all new referred cases were included in the study. Self-completion was feasible for parents. Sometimes the therapists administered the SDQ in all instances, with informed consent taken prior to the interview.

*Statistical analyses*

The SDQ by parents was the primary outcome measures for the children. Within-group pre-post intervention SDQ score changes were statistically tested using paired t-tests.

Effect sizes were calculated by using pre- and post-intervention standard deviations for continuous data or pre- and post-intervention. Statistical analyses were undertaken using SPSS version 13.0.

## Measures

*Sociodemographic data*:

The children demographic data was collected by questionnaire include sex, age, class, and place of residence, and types of therapy.

The *Strengths and Difficulties Questionnaire (SDQ)* [Goodman, 1999] was completed by parents on their children's behavioural and emotional functioning. This standardised questionnaire includes 25 items on a 0-2 scale. The 25 SDQ items are grouped in the scales of hyperactivity, emotional, conduct, and peer relationships problems, as well as a prosocial scale. A score is estimated for each scale and a total difficulties score for the four problem scales. The SDQ has previously been used in the Gaza child population by the research group (Thabet et al 2000). The same scale was filled by parents one month after coming to clinics.

## Results

The study evaluated 52 children in the first assessment in the first half year of 2008, 36 were boys (75%) and 12 were girls (25%). One month later, 26 boys (72.1%) and 10 girls (27.9%) were assessed. According to the clinic place, 55.8% of children were from Gaza Center, 7.55% from Bear El Balah, and 35.85% from Khan Younis center. Other socioeconomic characteristics are showed in table 1.

**Figure 1: Sampling of the study population**

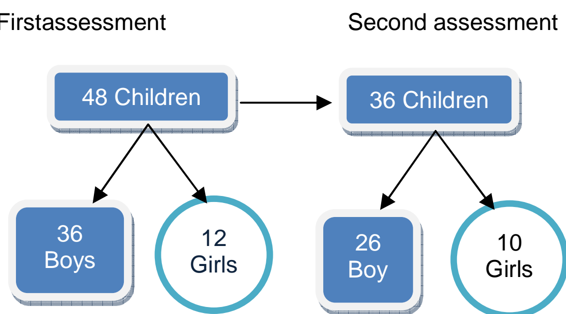


**Table 1: Sociodemographic characteristics of the study sample (N = 54)**

| Items | N | % |
|---|---|---|
| **Age mean = 9.58, SD = 3.08** | | |
| **Place of residence** | | |
| Gaza | 30 | 56.60 |
| Dear El balah | 4 | 7.55 |
| Khan Younis | 19 | 35.85 |
| **Family monthly income** | | |
| Less than 300$ | 31 | 63.27 |
| 301-500 $ | 13 | 26.53 |
| 501-750 $ | 3 | 6.12 |
| 751$ and more | 2 | 4.08 |
| **Paternal education** | | |
| Not educated | 2 | 3.85 |
| Elementary | 9 | 17.31 |
| Primary | 9 | 17.31 |
| Secondary | 16 | 30.77 |
| Diploma | 7 | 13.46 |
| University | 9 | 17.31 |
| **Paternal job** | | |
| Unemployed | 13 | 26.00 |
| Simple worker | 10 | 20.00 |
| Skilled worker | 11 | 22.00 |
| Employee | 6 | 12.00 |
| Merchant | 4 | 8.00 |
| Others | 6 | 12.00 |
| Died | | |
| **Maternal education** | | |
| Less than primary | 13 | 25.49 |
| Secondary | 23 | 45.10 |
| Diploma | 10 | 19.61 |
| University | 5 | 9.80 |
| **Maternal job** | | |
| House wife | 46 | 88.46 |
| Employee | 5 | 9.62 |
| Simple worker | 1 | 1.92 |

**Diagnostic criteria of children referred to GCMHP according to DSM-IV**

According to children assessment by the therapists, 31.50% still undecided, and 16.66% had learning problems, 11.11% had functional enuresis, 9.26% had PTSD, and other children ranged from simple phobia to mood disorders

**Table 2: Diagnostic criteria of children referred to GCMHP according to DSM-IV**

| Diagnosis | No | % |
|---|---|---|
| Child abuse | 1 | 1.85 |
| Conduct disorder | 1 | 1.85 |
| Conversion Disorder | 1 | 1.85 |
| ADHD | 1 | 1.85 |
| Parent child relationship problems | 1 | 1.85 |
| Stuttering | 1 | 1.85 |
| Phobia | 1 | 1.85 |
| Acute Psychotic Disorder | 2 | 3.70 |
| Oppositional defiant disorder | 2 | 3.70 |
| Epilepsy | 3 | 5.55 |
| Mood disorder | 3 | 5.55 |
| PTSD | 5 | 9.26 |
| Functional Enuresis | 6 | 11.11 |
| Learning disorder | 9 | 16.66 |
| Undecided | 15 | 27.8 |
| Total | 52 | 100.0 |

### Types of psychological interventions in the centers

Children referred to GCMHP clinics were treated by different methods, 46.3% said that they had family counseling with mean 4.8 sessions, 37.8% had play therapy, 23.5% had behaviour therapy, 22.5% received drugs, 14.8% received individual counseling, 12.3% received cognitive therapy, 9.9% received supportive psychotherapy, and 8.6% received individual psychotherapy

**Table 3: Type of intervention in the centers**

| Types of intervention | Yes | | No | | Mean sessions |
|---|---|---|---|---|---|
| | No | % | No | % | |
| Family counseling | 38 | 46.3 | 57 | 53.7 | 4.8 |
| Play therapy | 31 | 37.8 | 64 | 62.2 | 4.1 |
| Behaviour therapy | 19 | 23.5 | 76 | 76.5 | 4.3 |
| Medication | 18 | 22.5 | 77 | 77.5 | - |
| Individual Counseling | 12 | 14.8 | 83 | 85.2 | 4.5 |
| Cognitive therapy | 10 | 12.3 | 85 | 87.7 | 6.5 |
| Supportive psychotherapy | 8 | 9.9 | 87 | 90.1 | 3.8 |
| Individual therapy | 7 | 8.6 | 88 | 91.4 | 2.4 |

### Impact of intervention in children mental health according to Parent form of SDQ

In repeating after one month the SDQ for parents form, it was obvious that total SDQ mean decreased from 20.9 to 16.4 with mean differences =5.3 (t = 5.8, p = 0.001), prosocial behaviour was more after month (6.9 to 6.9) (t = -2.3, p = 0.03), hyperactivity decreased from mean 5.7 to 4.6 (t = 4.8, p = 0.001), emotional problems significantly decreased from mean 5.5 to 3.8 (t = 5.5, p = 0.001), conduct problems decreased from mean 5.4 to 4.2 (t = 4.6, p = 0.001), and also peer relationships problems decreased from mean 4.4 to 3.7 (t = 2.6, p = 0.01).

**Table 4: Paired T test comparing effectiveness of intervention after one month using SDQ-parents**

| SDQ-parents form | Assessment | Mean | SD | MD | t | p |
|---|---|---|---|---|---|---|
| Total Difficulties Score | Preass. | 20.9 | 5.4 | 0.001 | 5.8 | 4.53 |
| | Postass. | 16.4 | 6.5 | | | |
| Prosocial Behaviour | Preass. | 6.3 | 2.6 | 0.03 | -2.3 | -0.60 |
| | Postass. | 6.9 | 2.6 | | | |
| Hyperactivity/Inattention | Preass. | 5.7 | 1.7 | 0.001 | 4.8 | 1.04 |
| | Postass. | 4.6 | 2.0 | | | |
| Emotional Symptoms | Preass. | 5.5 | 2.4 | 0.001 | 5.5 | 1.70 |
| | Postass. | 3.8 | 2.5 | | | |
| Conduct Problems | Preass. | 5.4 | 1.9 | 0.001 | 4.6 | 1.11 |
| | Postass. | 4.2 | 2.1 | | | |
| Peer Problems | Preass. | 4.4 | 2.1 | 0.01 | 2.6 | 0.66 |
| | Postass. | 3.7 | 1.5 | | | |

### Time of difficulties reported by parents

In asking the parents about the time starting had their children difficulties, 3.5% reported difficulties less than one month, 18.6% reported difficulties from 1-5 months, 17.45 reported 5-12 months period, and 60.5% reported difficulties more than one year.

**Table 5: Period of difficulties in children**

| Period of difficulties | N | % |
|---|---|---|
| Less than one month | 3 | 3.5 |
| 1-5 months | 16 | 18.6 |
| 5-12 months | 15 | 17.4 |
| More than one year | 52 | 60.5 |
| Total | 86 | 100.0 |

### Benefit from coming for treatment in the centers

Paents reported different opinion about the benefits from coming for therapy, 18.9% reported that they got very much benefit, 56.8% had much benefit, 20.1% had a little one, and only 4.1% said there was no benefit.

**Table 6: Benefit of bringing the child to the clinic**

| Benefit | N | % |
|---|---|---|
| Not at all | 3 | 4.1 |
| Only a little | 15 | 20.3 |
| Much | 42 | 56.8 |
| Very much | 14 | 18.9 |
| Total | 74 | 100.0 |

### Perceived difficulties

In the areas of emotions, concentration, behaviour or social relations, perceived difficulties are rated on a four-point scale: 0, no; 1, minor; 2, definite; 3, severe. As can be seen in Table 7, there was a significant reduction in parents' perception of their child's overall difficulties at follow up (first assessment: M = 2.85 (SD = 0.78), follow up: M= 2.26 (SD = 0.75): t(34)= 3.58, p = 0.001). Table 7.

### Children upset

In asking the parents about the changes in children upset after coming to clinics, there was significant reduction in children upset at follow up (first assessment: M = 2.87 (SD = 0.82), follow up: M= 2.17 (SD = 0.65): t(29)= 4.19, p = 0.001).

### Burden

Respondents who reported perceived difficulties rated the level of burden. At follow up there was a significant reduction in the burden placed by the child on the family as perceived by parents (Table 7). The mean score reduced significantly from 3.27 at baseline to 2.44 at follow up (t(28) = 4.16, p < 0.001).

**Table 7:Impact of intervention on children difficulties after one month according to parents**

| Difficulties | Assess. | Mean | Std. Deviation | Mean. D. | t | P |
|---|---|---|---|---|---|---|
| Child have difficulties in emotions, concentration and behaviour | Time 1 | 2.85 | 0.78 | 0.59 | 3.58 | 0.001 |
| Over the last month, has your child had difficulties in emotions, concentration | Time 2 | 2.26 | 0.75 | | | |

| Difficulties upset the child-1 | Time 1 | 2.87 | 0.82 | 0.70 | 4.19 | 0.001 |
|---|---|---|---|---|---|---|
| Difficulties upset the child-2 | Time 2 | 2.17 | 0.65 | | | |
| Home life-1 | Time 1 | 3.03 | 0.76 | 0.80 | 4.25 | 0.001 |
| Home life-2 | Time 2 | 2.23 | 0.77 | | | |
| Relationships-1 | Time 1 | 2.83 | 0.83 | 0.73 | 3.96 | 0.001 |
| Relashionships-2 | Time 2 | 2.10 | 0.66 | | | |
| Learning-1 | Time 1 | 3.37 | 0.72 | 0.97 | 5.71 | 0.001 |
| Learning-2 | Time 2 | 2.40 | 0.72 | | | |
| Leisure activities-1 | Time 1 | 2.77 | 0.97 | 0.70 | 3.17 | 0.001 |
| Leisure activities-2 | Time 2 | 2.07 | 0.78 | | | |
| Burden on family-1 | Time 1 | 3.27 | .84 | .82 | 4.160 | .0001 |
| Burden on family-2 | Time 2 | 2.44 | .82 | | | |

### Discussion

This is the first study aimed to evaluate the impact of clinical intervention for Palestinian children in the Gaza Strip. The study showed that using the Strengths and Difficulties Questionnaire is promising in monitoring the impact of different intervention strategies used in Gaza Community Mental Health Program centers. The results showed that coming to clinics were very helpful in decreasing mental health problems, burden on families, children being less upset after one month of coming for the clinic. This consistent with previous worked which showed that family procedure in coming for psychiatric help in different mental health clinics lead to improvement of children symptoms. The results showed children referred to Gaza Community Mental Health Program centers had clinically significant problems and appear similar to international outpatient samples. Recent research in Germany and Australia also using the SDQ as a measure of severity generated SDQ scores (Klasen et al, 2000; Mathai, et al, 2004).

Few previous studies have used the SDQ as an outcome measure. One small study (n = 27), using the SDQ to measure the effect of a mental health outreach service on homeless children and families, found that the Total SDQ score improved significantly (Tischler et al 2000), A longer term follow-up study (n_40, mean age-9.5 years) using the SDQ as a repeat measure of change, found all of the highly significant post-intervention SDQ gains had been lost at 3 years (Andreson et al, 2005). Another larger study (n=141) used changes in SDQ scores to measure the effect of videotaped Parent Management Training (PMT) on parent-rated child behaviour (children aged 3_8 years) and demonstrated moderate effect size reductions in Total and conduct SDQ scores (Scott et al, 2001).Taken together, these studies suggest that the SDQ shows sensitivity to change. The present study appears to be first outcome study to date and suggests sufficient sensitivity to change to support using the SDQ as an outcome measure with children.

### Conclusion

The Gaza Community Mental Health Program intervention appeared moderately beneficial for a range of common emotional and behavioural problems seen in primary school-age children over the short term.

The results suggest that the SDQ has potential utility as an outcome measure for this age group, although this utility is limited to commonly occurring, broadly defined problems.

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