

# The Prevalence of Psychological Morbidity in West Bank Palestinian Children

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**Objective:** To determine the prevalence of psychological morbidity among Palestinian children living in the southern Bethlehem District of the West Bank during July 2000.

**Methods:** We undertook a descriptive study using the Rutter A2 (parent) Scale to determine psychological morbidity. This questionnaire comprises 31 questions that were answered by a parent of the 206 subject children (ages 6 to 13 years). We selected subjects based on a multistage, randomized selection of 8 Palestinian villages and their households in the southern region of Bethlehem, West Bank. We used the Gaza Socioeconomic Adversities Questionnaire to determine differences in economic status among families.

**Results:** For all families interviewed, the father was employed, none were receiving financial assistance, and all but 1 owned their own house. The results of the Rutter A2 Scale revealed a rate of psychological morbidity (“caseness”) of 42.3% among Palestinian children. The rate for boys was 46.3% and for girls, 37.8%.

**Conclusions:** The prevalence of psychological morbidity among Palestinian children in the West Bank was significantly higher (factor of 2;  $\chi^2 = 23.26$ ,  $df 1$ ,  $P < 0.001$ ), relative to the level of psychological morbidity determined independently for children in Gaza during 2000. We predict that these rates will have increased substantially owing to the escalated violence that began in this region 2 months after we conducted our study. We further predict that children in Israeli settlements in the West Bank will also exhibit elevated levels of psychological morbidity, relative to their counterparts in Israel.

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Information on funding and support and author affiliations appears at the end of the article.

## Clinical Implications

- Palestinian children in the southern Bethlehem region of the West Bank, Palestine, have an usually high rate of emotional and behavioural problems.
- Large-scale interventions will be required to overcome the deleterious effects of these levels of psychological morbidity.
- Differences between levels of psychological morbidity in Palestinian children in the West Bank and those in Gaza may indicate that distinct psychiatric and psychological interventions will be required.

## Limitations

- This study was limited to a single area of the West Bank.
- A single measurement tool, the Rutter A2 (parent) scale, was employed.

**Key Words:** *Palestinian children, West Bank, Rutter A2 scale, psychological morbidity, occupied territories*

Since 1948, the Palestinian people have been subjected to displacement and military occupation, causing significant violent social and psychological pressures (1). To give a relatively recent example, during the violent period known as the Intifada (from 1987 to 1990), children suffered an extremely high incidence of physical trauma both in Gaza and in the West Bank (2,3).

Studies using distinct measurement tools have examined the psychological status of Palestinian children. Using several psychometric tools, Miller and others reported a high prevalence of posttraumatic stress disorder (PTSD), conduct disorder, and attention-deficit hyperactivity disorder in children in Gaza, relative to children in a region without conflict (specifically, Ontario) (4). These researchers observed a high prevalence of emotional (36.3%) and behavioural (34.9%) problems, while the prevalence of moderate-to-severe PTSD was 39.5%. A longitudinal study of children in Gaza supported their results (5,6). Notably, when violence in this area lessened, the rates of emotional and behavioural problems in these children decreased significantly (from 27% to 21%, according to the Rutter A2 Scale). Similarly, a study of Gazan children during and after the Intifada observed analogous changes, as indicated by the Traumatic Events Checklist (7,8). Importantly, comparisons of psychological outcomes from Gaza and the West Bank indicate that these children have heterogeneous experiences and responses (1). This heterogeneity must be considered if mental health interventions in both regions are to be effective.

Given the lack of studies in the West Bank, we undertook to determine the prevalence of psychological morbidity in children aged 6 to 13 years living in villages in this region. These children have lived their entire lives under military occupation and with increasing demographic pressure from Israeli settlement expansion (9). The principal tool we employed to assess psychological health was the Rutter A2 (parent-answered) Scale (10,11), which measures general psychopathology manifested as emotional and behavioural problems in a population. We report here an alarming rate of psychological morbidity among West Bank children in the summer of 2000, a period of relatively low levels of violence.

## Methods

To later compare children living in distinct conditions in the West Bank (for example, in villages vs refugee camps), we initially chose rural villages that were not administered by United Nations refugee and work agencies and had fewer than 20 000 inhabitants. The multistage, random sample design comprised the following: 1) random selection of a single district of the West Bank, 2) random selection of 8 Palestinian rural villages in that district, and 3) random selection of households. We obtained permission from each village

council to collect data from households. We obtained consent in all cases by first reading a consent form outlining the nature of the study to each household. A parent (the mother in all but 1 case) then signed the consent form. Questionnaires for approximately 25 children per village, aged 6 to 13 years, were completed. We excluded children in 1 family owing to the recent natural death of the head of the household.

Our team of researchers collected data over the course of 2 weeks in July 2002. We measured psychological status using the standardized Arabic version of the Rutter A2 Scale (12). This standardized interview format has been successfully used to measure psychological status in the Gaza. The Rutter A2 scale comprises 31 items rating behavioural and emotional problems (11,12). Potential total scores range from 0 to 62. Children with a total score of 13 or more correlate well as presenting with possible psychological morbidity and requiring detailed psychiatric evaluation.

To determine in future studies whether differences in socioeconomic situation (for example, village vs refugee camp) influence psychological morbidity, we assessed socioeconomic status according to the Gaza Socioeconomic Adversities Questionnaire (14).

## Results

Analysis of the Rutter A2 Scales (Table 1) revealed that a total of 87 children exceeded the cut-off score of 13. Thus, 42.3% of the children in this West Bank district were flagged for psychological morbidity. Total scores ranged from 0 to 32, with a mean total score of 11.5. Girls had an average score of 10.72, with a prevalence of caseness of 37.8%, while boys had an average score of 12.44, with a prevalence of caseness of 46.3%. Six children from 4 villages had Rutter scores of 30 or greater.

Socioeconomic status results for households revealed that all but 1 family owned their house, 81.5% had an average monthly income of more than 901 NIS (more than US\$214), and none were receiving financial assistance (Table 2). For all families, the husband was the sole income earner. With general homogeneity in employment, income, and home ownership, we did not think that socioeconomic adversity significantly affected the rates of caseness.

## Discussion and Conclusions

We demonstrated a high prevalence (42.3%) of psychological morbidity among children in the southern Bethlehem district of West Bank during the summer of 2000. The overall prevalence of psychological morbidity in this region, determined using the Rutter A2 scale, is more than 2 times higher than the reported rate of caseness in Gaza in 2000 (5) ( $\chi^2 = 23.26$ ,  $df 1$ ,  $P < 0.001$ ). Attention must be paid to the differences in psychological profiles of Palestinian child populations of the West Bank, compared with Gaza.

**Table 1 Rutter A2 Scale - Number and prevalence rates (%) of children in West Bank villages exceeding cut-off score of 13**

| Village        | Children (n) | Caseness (n) | %      | Boys (%) | Girls (%) |
|----------------|--------------|--------------|--------|----------|-----------|
| 1              | 25           | 10           | 40.0   | 18.2     | 57.1      |
| 2              | 22           | 7            | 31.8   | 42.9     | 12.5      |
| 3              | 24           | 14           | 58.3   | 64.3     | 50.0      |
| 4              | 28           | 7            | 25.0   | 33.3     | 15.4      |
| 5              | 29           | 13           | 44.8   | 63.6     | 33.3      |
| 6              | 25           | 10           | 40.0   | 46.7     | 30.0      |
| 7              | 26           | 14           | 53.8   | 50.0     | 57.1      |
| 8              | 27           | 12           | 44.4   | 50.0     | 36.4      |
| Total (mean %) | 206          | 87           | (42.3) | (46.3)   | (37.8)    |

**Table 2 Sociodemographic characteristics (n = 206)**

|  | n (%)           |
|--|-----------------|
| Sex  |                 |
| Girls <sup>a</sup>                                 | 98 (47.6)       |
| Boys <sup>a</sup>                                  | 108 (52.4)      |
| Type of residence area                             |                 |
| Rural village                                      | 8 (100.0)       |
| Type of home <sup>b</sup>                          |                 |
| Rented   | 3 (1.4)         |
| Owned  | 203 (98.5)      |
| Other  | 0 (0.0)         |
| Monthly family income                              |                 |
| < 900 NIS / < US\$214                              | 32 (15.5)       |
| 901 to 1600 NIS / US\$ 214 to US\$ 381             | 83 (40.3)       |
| 1601 to 2700 NIS / US\$ 381 to US\$ 643            | 52 (25.2)       |
| 2700 NIS / > US\$ 643                              | 33 (16.0)       |
| Unknown  | 6 (2.9)         |
| <sup>a</sup> Mean age 9.9 years                    |                 |
| <sup>b</sup> Average number of rooms per household | 3.7 (range 1–9) |

Considering the high prevalence of emotional and behavioural problems during a period of relative calm, we hypothesize that the Israeli settlement encroachment may significantly stress Palestinian children and families living in the adjacent isolated West Bank villages. Indeed, recent evidence suggests that, in the absence of direct traumatic events, poor psychological status may arise from anticipating such events (13). Villages in this survey were either within several hundred metres of Israeli settlements and (or) those travelling outside the village had to pass directly adjacent to the settlements (personal observation). Anecdotal evidence revealed that some children refused to attend school if they had to travel

near a settlement, because they feared violence. Apart from the presence of the settlements themselves, significant military presence supports this expansion to protect infrastructure connecting the settlements to each other and to Israel (9, personal observation). Our study also supports the suggestion that settlement encroachment has a negative impact: village 4, the only village completely administered by the Palestinian Authority and having the largest self-contained population, had the lowest rate of psychological morbidity among its children.

We hypothesize further that Israeli children living in the settlements of the West Bank are not insulated from the psychological effects of living close to a perceived hostile adversary (that is, existing Palestinian villages). It will be important, therefore, to determine the mental health status of Israeli children in settlements in this same West Bank region.

The data for our study were collected during July 2000, less than 2 months before significantly escalated violence between Palestinians and the occupying Israeli military (that is, the September 2000 “Al Aqsa Intifada”). We predict further deterioration in the mental health status of Palestinian children in the West Bank. Given that psychological morbidity was above 42% prior to this escalation, the current rate is potentially greater than one-half the population.

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### Résumé : La prévalence de la morbidité psychologique chez les enfants palestiniens de Cisjordanie

**Objectif :** Déterminer la prévalence de la morbidité psychologique chez les enfants palestiniens qui habitaient le district sud de Bethléem en Cisjordanie, en juillet 2000.

**Méthodes :** Nous avons entrepris une étude descriptive à l'aide de l'échelle Rutter A2 (parent) pour déterminer la morbidité psychologique. Ce questionnaire comprend 31 questions auxquelles a répondu un parent des 206 enfants sujets (de 6 à 13 ans). Nous avons choisi les sujets d'après une sélection aléatoire multiple de 8 villages palestiniens et de leurs ménages dans la région sud de Bethléem, en Cisjordanie. Nous avons utilisé le questionnaire des adversités socio-économiques de Gaza pour déterminer les différences de statut économique parmi les familles.

**Résultats :** Chez toutes les familles interviewées, le père avait un emploi, aucune ne recevait d'aide financière, et toutes sauf 1 étaient propriétaires de leur maison. Les résultats de l'échelle Rutter A2 ont révélé un taux de morbidité psychologique (« cas ») de 42,3 % chez les enfants palestiniens. Le taux pour les garçons était de 46,3 % et pour les filles, de 37,8 %.

**Conclusions :** La prévalence de la morbidité psychologique chez les enfants palestiniens de Cisjordanie était significativement plus élevée (facteur de 2;  $\chi^2 = 23,26$ , fer 1,  $P < 0,001$ ), par rapport au taux de morbidité psychologique déterminé indépendamment chez les enfants de la bande de Gaza en 2000. Nous prédisons que ces taux augmenteront substantiellement en raison de l'escalade de violence qui a éclaté dans la région 2 mois après que nous avons mené notre étude. Nous prédisons en outre que les enfants des villages israéliens de Cisjordanie afficheront aussi des taux élevés de morbidité psychologique, relativement à leurs contreparties en Israël.