

The Use of the Family APGAR in Screening for Family Dysfunction in a Family Practice Center

Mark Mengel, MD, MPH
Oklahoma City, Oklahoma

The Family APGAR questionnaire was used to determine the prevalence of self-reported family dysfunction present in patients who attended a family practice center, to determine whether knowledge of the Family APGAR score increased the frequency with which family physicians evaluated family functioning and diagnosed family dysfunction, and to determine whether certain psychosomatic complaints associated with family dysfunction were more common in a group of patients with a Family APGAR score of less than 6. To achieve these purposes, all patients entering the center were asked to fill out a Family APGAR questionnaire during the month of March 1984. Physicians learned of the results in a randomly selected one half of all cases. A chart review was conducted one month later.

Twenty-four percent of patients reported family dysfunction (APGAR less than 6). Knowledge of the APGAR score did not increase the frequency with which physicians evaluated family function (20 percent known vs 17 percent unknown) or diagnosed family dysfunction (6.3 percent known vs 6.4 percent unknown). Patients with self-reported family dysfunction as defined by the Family APGAR did not have more psychosomatic complaints noted in their charts than patients without self-reported family dysfunction.

Family dysfunction is a common problem in family practice patients, it is recorded infrequently in patients' charts, and knowledge of the results of a screening device does not increase the frequency with which family dysfunction is noticed.

Recent research has shown the impact family functioning has on patient health. A review by Smilkstein¹ supports this point and describes ways in which physicians can assess family function. Yet, despite the importance of family functioning and the availability of assessment methods, Smilkstein notes:

Systematic application of this knowledge has not been the rule in clinical practice. Much of the explanation for the incongruity between what is intuitively known and what is actively practiced by family physicians may be found in two areas: (1) the failure to adequately integrate existing psychosocial knowledge into the clinical training of medical students, and (2) the failure of physicians to employ in practice utilitarian techniques to facilitate the identification and management of family pathology.

The Family APGAR is one such utilitarian technique that has been used to screen for family dysfunction. Developed in 1978 by Smilkstein, it is a self-report, five-item questionnaire designed to detect dysfunction in family adaptation, partnership, growth, affection, and resolve. Each question is scored 2, 1, or 0, corresponding to answers of "almost always," "some of the time," and "hardly ever," respectively. A total score of 10 is possible. Scores of 0 through 3 are reported to correlate with severe dysfunction, 4 through 6, moderate dysfunction, and 7 through 10, no dysfunction.² Several studies have shown that the Family APGAR is a valid and reliable measure of family dysfunction.^{3,4}

To test Smilkstein's hypothesis that the general failure of family physicians to evaluate family functioning is due to not using available screening questionnaires, a research project was designed to test the frequency with which physicians evaluated family functioning and diagnosed family dysfunction in patients screened with the Family APGAR. Secondary purposes included establishing the prevalence of outpatient family dysfunction in the family practice setting as detected by the Family APGAR and

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From the Department of Family Medicine, University of Washington, Seattle, Washington. At the time this paper was written Dr. Mengel was a Robert Wood Johnson Family Medicine Fellow, University of Washington. Requests for reprints should be addressed to Dr. Mark Mengel, Department of Family Medicine, College of Medicine, University of Oklahoma Health Sciences Center, 800 NE 15th Street, Rogers Building, Room 501, Oklahoma City, OK 73104.

determining whether certain psychosomatic complaints— anxiety, depression, headaches, insomnia, fatigue, and increased number of pediatric complaints (termed the “red flags of family dysfunction” by Doherty and Baird⁵)— were more common in a group of patients with low Family APGAR scores.

METHODS

The family practice center* where this study was undertaken is a group practice consisting of 12 residents, 3 staff physicians, and 1 nurse practitioner. Prior to this study, a 30-minute seminar was given on the Family APGAR so that each physician knew the meaning of the score and knew they would be receiving the score on some patients. Physicians were told only that the APGAR was being used to determine the prevalence of family dysfunction in patients presenting to the center. They were not informed of the other purposes of the study.

Approximately 1,000 outpatient visits each month occur in the family practice center. During the month of March 1984 all patients entering the center were asked to complete a Family APGAR questionnaire. No attempt was made to exclude patients who had previously completed Family APGARs on visits earlier in the month. For patients younger than 10 years of age, the parent or guardian accompanying the child was asked to fill out the Family APGAR questionnaire.

To test the hypothesis that knowledge of the Family APGAR would increase the frequency with which family function was evaluated and family dysfunction diagnosed by clinicians, each physician saw the patient's Family APGAR score in only one half of his or her cases. For those cases in which the Family APGAR score was revealed, it was recorded on the patient's encounter form by the nurse. This allocation was determined on a random basis.

For the purposes of this study, patients with a Family APGAR score of 6 or less were placed in the self-reported family dysfunction group. A chart review was then conducted one month after their visit to determine the frequency with which physicians evaluated family functioning and diagnosed family dysfunction. Variables that were sought included whether an evaluation of family functioning occurred at that visit or ever, whether a diagnosis of family dysfunction was made at that visit or ever, and whether the following psychosomatic complaints were ever noted in the patients' charts: headaches (any type), anxiety, depression, insomnia, fatigue, or high frequency of pediatric visits (greater than six per year, not including

well-child checkups). Variables were recorded as either being present or absent. The evaluation of family function was recorded as present if any notation of family function or structure (such as the number of children in a family) occurred in the objective portion of the note. The diagnosis of family dysfunction was recorded as present if any evidence of family dysfunction (disruption in the homeostatic mechanisms or life cycle development of the family such as marital problems, divorce, parenting problems, etc) occurred in the assessment portion of the note.

A 20 percent random sample of those patients with a Family APGAR score of 10 was selected, and a similar chart review was conducted on those patients. Those patients were placed in a no self-reported family dysfunction group and compared with the patients in the self-reported family dysfunction group to see whether the incidence of recorded psychosomatic complaints in the chart differed between the two groups.

As the project progressed, the center nurse and her two medical assistants pointed out that many patients with known family dysfunction were scoring 7 or above on the Family APGAR. Thus, at the conclusion of the project all physicians were asked to review all the Family APGAR forms on each of their own patients and generate a list of patients in which they felt the Family APGAR score was inaccurate (either 7 or above when family dysfunction was known to be present, or below 7 when no family dysfunction was known to be present). The center nurse and her two medical assistants who had worked in the center for a long time were asked to do the same. When the listings from the physician and the nurses agreed, the patient was placed in a group called false negatives. Uniformly both physicians and nurses felt the Family APGAR score was inaccurate only when it was actually above 6 but clear family dysfunction was present. A similar chart review was then conducted on the false negatives and that group was compared with the first two.

A chi-square analysis was then conducted on the data generated. When the expected value of any cell in the chi-square analysis was less than 5, a Fisher's exact test was used instead.

RESULTS

Nine hundred seventy-four outpatient visits were recorded in March 1984. From those patient visits, 805 Family APGAR questionnaires were completed, for a refusal rate of 17 percent. Of the 805 who agreed to fill out the Family APGAR, 194 (24 percent) had a score of 6 or less (Figure 1).

As the next analysis was on physician behavior, 20 patients with a Family APGAR score of 6 or less who were

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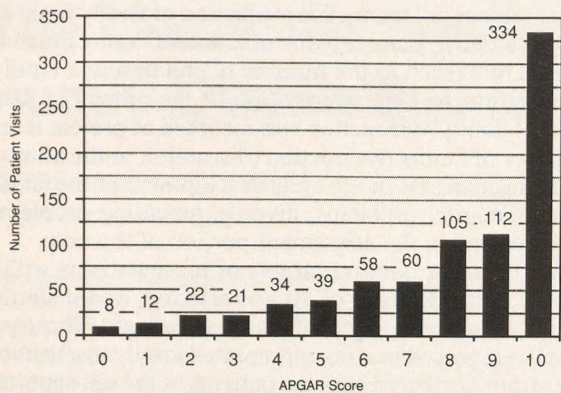


Figure 1. Distribution of Family APGAR scores

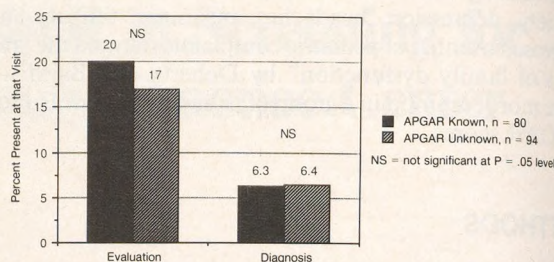


Figure 2. Evaluation and diagnosis of family dysfunction in patients with Family APGAR scores less than or equal to 6, APGAR known vs unknown

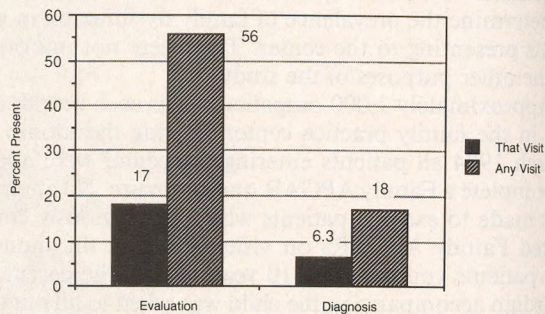


Figure 3. Evaluation and diagnosis of family dysfunction in patients with Family APGAR less than or equal to 6, that visit vs any visit

seen by the nurse practitioner were eliminated. Of the 174 patients remaining, 32 (18.4 percent) had an evaluation, whereas 11 (6.3 percent) had the diagnosis of family dysfunction made by the physician at that visit. Knowledge of the Family APGAR score did not increase the rate at which physicians evaluated family functioning or diagnosed family dysfunction at that visit (Figure 2). Because of these low rates, the entire chart of each patient in the self-reported family dysfunction group was then reviewed to see how often an evaluation of family function was conducted or a diagnosis of family dysfunction was made. Figure 3 reveals that at some point 56 percent of the patients in the self-reported family dysfunction group had an evaluation of family function conducted, while 17 percent had a diagnosis of family dysfunction placed in their charts.

Because the small number of cases seen by each physician was insufficient to produce a stable estimate of physician's rate of evaluating or diagnosing family dysfunction, first- and second-year residents were pooled in a "less experienced" group while third-year residents and staff physicians were pooled in a "more experienced" group. The rates of evaluating and diagnosing family dysfunction in patients with self-reported family dysfunction were compared within each experience group when the Family APGAR was known vs when it was unknown. In neither group were physicians significantly more likely to conduct an evaluation or make a diagnosis of family dysfunction when the patient's Family APGAR was known to be low. When the two experience groups were compared, however, the more experienced group was significantly more likely to diagnose family dysfunction in patients with self-reported family dysfunction than was the less experienced group when physician knowledge of the Family APGAR

was excluded from the analysis (Table 1). The two experience groups did not differ from one another in their rates of evaluating family dysfunction in patients with self-reported family dysfunctions.

There was no significant difference in the percentage of patients with studied psychosomatic complaints in the three groups of patients (Figure 4). Figure 5 reveals that patients with one or more psychosomatic complaints had an evaluation of family function conducted and the diagnosis of family dysfunction made significantly more often than those without psychosomatic complaints.

DISCUSSION

The striking point revealed from this study is that family dysfunction, as defined by the Family APGAR, is very common in patients presenting to family practice clinics.

TABLE 1. DIAGNOSIS AND EVALUATION OF PATIENTS WITH FAMILY APGAR ≤ 6, FIRST- AND SECOND-YEAR RESIDENTS VS THIRD-YEAR RESIDENTS AND STAFF PHYSICIANS

| Physicians | Number of Patient Visits | Evaluation of Family Dysfunction Made During that Visit* No. (%) | Diagnosis of Family Dysfunction Made During that Visit** No. (%) |
|---|--------------------------|---|---|
| First- and second-year residents (n = 9) | 134 | 22(16.4) | 5(3.7) |
| Third-year residents and staff physicians (n = 6) | 40 | 10(25.0) | 6(15.0) |

* Not significant
** P < .02

Nearly one in four patients had evidence of family dysfunction. This percentage is higher than noted by Smilkstein in his study of new patients presenting to a family medicine clinic (15 percent with a Family APGAR score of 6 or less) and probably reflects that all patients were studied in this project, and that studied patients were at

higher risk for family dysfunction given their low socioeconomic status. During March 1984, 30 percent of patients seen were on Medicaid and 18 percent had no insurance. In addition, that clinic repeaters were not excluded would be expected to elevate this prevalence as well. This fact is thought to represent a minor consideration, however, as repeaters accounted for less than 5 percent of total patient visits and often refused to complete the Family APGAR after their first visit.

Given the frequency of family dysfunction, it is striking that family dysfunction is not evaluated or diagnosed more often by physicians in their charts, even when aided by knowledge of the Family APGAR score. Failure to note psychosocial problems in charts is a common problem among physicians,^{6,7} but it was surprising that such failure persisted despite knowledge of the Family APGAR result. Possible speculations that could explain this finding include the following: (1) physicians were uncertain about how to conduct an adequate evaluation of family function; (2) once an evaluation was conducted, the process by which a diagnosis was made was not clear; (3) once a diagnosis was made, clear, effective therapy was not always readily available or desired by the patient; (4) looking into family issues may be too time consuming for the physician; and (5) physician uncertainty existed over the validity of the Family APGAR as a measure of family dysfunction. The first two explanations might explain the behaviors of the first- and second-year residents, as once more experience was gained in evaluating and making the diagnosis of family dysfunction, third-year residents and staff physicians made the diagnosis of family dysfunction more frequently than the first- and second-year residents. Additional research is clearly required to explore such explanations.

That patient psychosomatic complaints associated with family dysfunction were not significantly more common in the self-reported family dysfunction group was also surprising. This finding could be due to the no dysfunction group being selected from a clinic population (which would be expected to have a higher percentage of symptoms) rather than from the community at large. In ad-

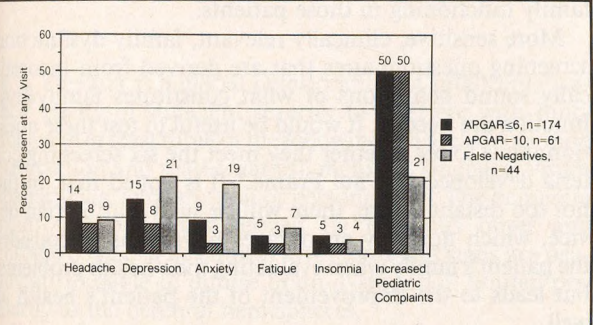


Figure 4. Percentage of patients with psychosomatic complaints at any visit in those with family dysfunction, those without family dysfunction, and those with family dysfunction but with Family APGAR scores greater than 6

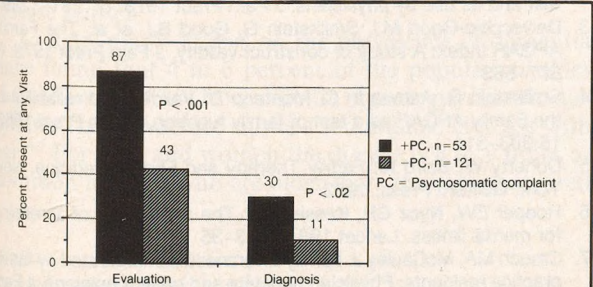


Figure 5. Evaluation and diagnosis of family dysfunction in patients with Family APGAR scores less than or equal to 6 at any visit in those with psychosomatic complaints vs those without such complaints

dition, the possibility of a type II error cannot be excluded given the small sample sizes in this study. Psychosomatic complaints served a more practical function for patients, however. When they were noted by physicians, patients were more likely to have their family functioning evaluated and a diagnosis of family dysfunction made at some point in the chart. Because physicians do respond to psychosomatic complaints by evaluating and diagnosing family dysfunction, these patient symptoms should be continually emphasized as possible markers of family dysfunction.

It would not be wise to conclude without noting some of the problems encountered in this research. First of all, the Family APGAR is not a totally satisfactory test of family dysfunction; from the wording of the questions it appears to measure the patients' satisfaction with their families' functioning, not family functioning itself. In addition, its sensitivity and specificity are essentially unknown, with the sensitivity being particularly suspect given its self-reporting nature and the high number of false negatives identified in this study. Furthermore, the false negatives and the lack of association between psychosomatic complaints and Family APGAR score raise further validity questions about the Family APGAR as a measure of family functioning. Second, the generalizability of this study to other family practice centers specifically and to medical care in general is unknown. Third, the use of medical records review to judge how often physicians note family dysfunction is suspect. Record reviews are notoriously unreliable (reviewers differed about 10 percent of the time in this study), and physicians' ability to truly document what they actually think and do during a visit is known to be inaccurate.^{7,8} Fourth, physicians were not truly blinded to the study, as the true intent was obvious after a few days. Mitigating this potential source of bias is that physician's behavior was still not what was expected. Fifth, minimal evaluations of family function and any diagnoses of family dysfunction was accepted. Such minimal evaluations and weak diagnoses were estimated to occur in about one third of cases. Thus, estimates of percentage of patients with evaluations and diagnoses of family dysfunction in this study should be considered optimistic. Finally, patients with family dysfunction were not followed to determine whether evaluation and notation of that problem actually made a difference to their health.

Given those major difficulties, what conclusions can be made? First, family dysfunction does seem to be a common problem in family practice that is largely ignored by physicians in their charting. Second, using the Family APGAR as a screening device does not improve the frequency with which physicians evaluate or diagnose family dysfunction in their patients at a single visit. Screening patients for family dysfunction using the Family APGAR,

therefore, cannot be advocated at this time as a technique to "facilitate the identification and management of family pathology."¹

What techniques can be used to encourage physicians to identify and treat family pathology? This study suggests two: education and cues. First, as third-year residents and staff physicians made the diagnosis of family dysfunction more often in patients with self-reported family dysfunction than first- and second-year residents, behavioral science education may improve charting of family problems. Evaluating the patient's family was emphasized throughout the residents' three-year behavioral science curriculum, but more heavily in the third year when they were exposed to the basics of family systems theory and family therapy techniques. Second, as physicians were more likely to evaluate and diagnose family dysfunction when the patient had a psychosomatic symptom, these complaints—headache, depression, anxiety, fatigue, insomnia, and increased number of pediatric complaints—should be continually emphasized as markers of family dysfunction to encourage practicing physicians at least to evaluate family functioning in those patients.

More sensitive, clinically relevant, family dysfunction screening questionnaires that are derived from theoretically sound definitions of what constitutes family dysfunction are needed. It would be useful to test these questionnaires to see whether they meet the six screening criteria developed by Paul Frame.⁹ It is hoped that, in the not too distant future, there will be such a utilitarian device, which not only encourages physicians to consider the patient's family when evaluating their health problems, but leads to the improvement of the patient's health as well.

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