## SOME SOCIAL AND PSYCHOLOGICAL FACTORS IN MALNUTRITION

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The Jewish Social Service Bureau of Chicago has made a very interesting experiment in nutrition which has served to emphasize some factors in health and nutritional work which have hitherto not received the attention which they merit. The aim and results of the experiment are set forth in detail in a report of the work made by the Jewish Social Service Bureau. The following is an extract of the introduction and conclusion contained in the report.

The report is in the nature of a study aiming at an objective and critical evaluation of the results accomplished by supplementing the relief budgets of a group of dependent families over a period of two years, through a special fund made available by B. D. Eisendrath, president and founder of the Eisendrath Foundation, for this purpose.

The two year period during which this experiment was tried expired in October 1921. Before determining whether the Foundation is to continue the present plan of supplementing the families' income in order to correct malnutrition by providing additional food and greater ease in the home, or whether it is to revert to its original plan of institutionalizing children which present problems of malnutrition, it was deemed advisable to carefully review the work in order that the judgment may be made on as much factual data as could be obtained.

The workers and supervisors dealing with the families supplemented by the Eisendrath Foundation were asked to report as to the progress and development of the homes. Then the case reviewer of the organization was asked to study the case records of the various families and she submitted a critical

judgment as to the results accomplished, but it was feared that the case workers, supervisors, and even the case reviewer, were too near to the situation to be able to give a wholly objective opinion of the work. It was also felt that a mere statement of results from the standpoint of the organization was not adequate. It was thought that the particular development in a family would appear in its proper perspective only when brought into relation with the whole family situation and in terms of an analysis of the causes which determined this development. It seemed particularly desirable that such an analysis should point out the possible avenues of approach for the reconstruction of the family which may have been overlooked by the organization in its handling the given family. Through the cooperation of Prof. Burgess of the Department of Sociology of the University of Chicago, one of the graduate students of the Department of Sociology in the University studied the case records and the other available material.\* An attempt was made to judge the work from the standpoint of such sociological and psychological information as was at the disposal of all those who were engaged in the study. In so far as possible, opinions, based on subjective data as well as speculation as to possibilities utilized and not utilized, were indicated as such.

It should be pointed out in this connection that the emphasis of this review has fallen, in many instances, upon the discussion of possibilities which, apparently, have not been fully taken advantage of. While this may seem as over-emphasizing the weak points, it is, nevertheless, deemed of exceeding importance to the organization because it may be helpful in the future dealings with the particular families, and may, perhaps, point out the dangers to be guarded against in new families. Besides, the strong points in the work are more or less evident from a comparison of the family situation before and after supplementation, and from the discussion in each case of the results accomplished. Furthermore, a series of tables, presenting in numerical form such achievements as are measurable, were prepared to supplement the summary statements.

It should be mentioned that the period chosen for the ex-

<sup>&</sup>lt;sup>1</sup> The Eisendrath Foundation experiment was concerned with eleven dependent families and fifty-seven children.

The result of these studies are embodied in case reviews contained in the report.

periment was a difficult one because during this period—October 1919 to October 1921—food prices fluctuated wildly, so that with the stationary and more or less uniform budget which was prepared early in 1919 and which was used by the organization during the experimental period, the families were receiving, for some time during the two years, at least 25 per cent less than the Nesbitt budget for dependent families required. Since this budget represents the minimum requirements for health, it must be admitted that during a certain portion of this experimental period, the Eisendrath Supplementation, even where the maximum supplementation of \$50 per month was given to the family, did little more than bring the families up to the Nesbitt budget on which little correctional work can be done.

It is also pointed out that besides the adverse conditions under which the experiment was made, it involved too small a number of people, and was conducted for too short a time to make it safe to draw any conclusions of a general nature. Nevertheless, it was thought that it would be helpful if the work and accomplishments could be studied in tabular form, and to this end, five tables\* were prepared so that such accomplishments as can be measured quantitatively be considered in that light.

Table 1 presents the weights and heights of children at the first measurement which was usually at the time of acceptance by the Eisendrath Foundation, and the last measurement which was either in October 1921, or at the time when supplementation was discontinued by the Eisendrath Foundation. This table reveals some rather interesting facts. First, whereas the normal gain in weight for this group of children during the respective supplementation periods should have been about 476 pounds, the actual gain in weight was about 570 pounds, or a gain of about 94 pounds, which means that not only did the children keep up with the normal rate of gain, but that they increased their weight to the extent of about two pounds each. In like manner, the total normal gain in height

factors which are responsible for the condition.

for the group of children for the supplementation period should have been about 124 inches; whereas the actual gain in height was about 149 inches, or a net gain of about 25 inches, thus making an increase in height of a little over one-half inch per child. Also, the average degree of malnutrition measured in terms of weight per child was almost 4 pounds at the first measurement; and in the final measurement, the average malnutrition measured in terms of weight was about two pounds. In like manner, the average degree of stunted growth as revealed in the first measurement was about one-fourth of an inch; whereas at the last measurement the children were found to be over-sized, so that they averaged about .3 of an inch more than they should measure for their respective ages.

While averages may be misleading, particularly since they are based upon such small numbers, they show, if nothing else, that not only were the tendencies which most of the children showed toward under-nourishment and under-size checked, but that most of the children were enabled to gain at the normal rate in height and weight, and in addition to that, succeeded, to a considerable extent, in correcting their original condition of malnutrition and stunted growth.

A rather interesting fact is revealed by a study of the children which were below their normal weight at the time of the last measurement. Of these children, 55 per cent gained more than their normal gain in height. This would seem to indicate that when a child is, in addition to being under-weight also under-sized, it will tend to correct its height much faster than its under-weight. This was borne out by experience because it was noticed at the beginning of the experiment that after supplementation had been sent for a few months, the percentage of under-weight in the children was greater than at the time of acceptation by the Eisendrath Foundation, but that during this period, the child had grown very much more than what was the normal rate of growth. Since the percentage of malnutrition is calculated on the basis of height, the resulting

<sup>\*</sup>Toble 1 Compares the actual and normal beights and weights of each of the children at the first and dual measurements; percentages below and above normal as well as the actual and normal rate of gain in height and weight, and the percentages below and above the normal rate of gain.

Table 2. Analysis of the mainutrition of the children into the probable

Table 3. Shows the number of different social workers which handled the respective families during the experimental period.

Table 4. Compares the income of the men and the families at the beginning and the end of the experiment.

Table 5. Compares the per capita cost of the individuals supplemented with the per capita cost in children's institutions of recognized standing.

greater malnutrition really meant greater growth. This experience was corroborated by the Elizabeth McCormick Foundation since they had the same experiences. A further study of the children who remained under-weight at the last weighing showed that 55 per cent gained in height from 5 to 160 per cent above their normal rate of gain in height. Unfortunately, very little work of a reliable nature has been done along these lines which would throw light on this problem. It would seem, however, that one might be justified in questioning the adequacy of using "heights" as a basis for figuring malnutrition since the height of a child is so variable and depends upon so many factors. On the basis of such figures and norms as are available, some interesting speculations are possible.\*

A careful reading of the case reviews makes it apparent that the problem of malnutrition is not to be dealt with merely on the basis of additional food. The fact is that there appears to be a number of factors which are responsible for the condition of under-nourishment, and that only to the degree in which these factors can be controlled and corrected can the malnutrition be overcome. An attempt was made at analyzing the families with regard to the problems which they presented in so far as these problems seemed to influence the health of the children. These factors are found to be: (1) ignorance of food values, (2) physical defects in children, (3) lack of sufficient income, (4) lack of control in the homes, and (5) unwholesome mental attitudes.\* A study of the results accomplished in the various families reveals the interesting and perhaps startling fact that when a malnutrition problem was due to any or all of the first three factors, the situation was corrected and progress was, on the whole, more or less satisfactory. But when these three factors were complicated by either one or both of the remaining factors so that correction depended upon a fundamental change in attitudes and a reorganization of control in the family, progress was very slow and difficult. This is what might be expected in general, for

the organization could control the first three factors, but could not control the last two: It could teach the mothers food values and how to properly balance a diet through the visiting housekeeper and dietitian; it could correct the physical defects in the children by cooperating with the medical agencies; and it could supplement the income in the family through the Eisendrath Foundation. All that was necessary in such cases was that the case worker gain the confidence and cooperation of the family sufficiently, so that these corrective measures could be successfully coordinated. But the organization has no definite technique which it could consciously use, so as to bring about a necessary change in attitudes or in the relations between the members of a family. No definite technique for dealing with these fundamental aspects of personality is yet available for this purpose. Consequently, even when such problems were recognized, the attempts to deal with them resulted in the crystallization of conflicts which sometimes made discontinuation of Eisendrath Supplementation necessary and sometimes even resulted in a complete rupture of the friendly relations which had previously existed between the agency and the family. While this seems to be a serious indictment of the experiment, it should be borne in mind that this difficulty is inherent in the work rather than in the organization. It must also be recognized that such far reaching changes as are necessary in order to bring about a readjustment of the family situation require a good deal more time, effort, and energy than was possible for the organization to give during this period. The weaknesses and difficulties which became apparent, and which the organization endeavored to correct were the results. in most cases, of years of privation and suffering. A correction of these difficulties is only possible through a complete reorganization of the life habits of the families and the indi-

This formula becomes in the case of the first child in Table 1  $\frac{17.52 + 18.7 + 13.9}{1}$ 

<sup>•</sup> The following formula is an attempt to determine whether it is possible to fore-tell the length of time required for correcting malnutrition in children when in addition to their under-weight, they are also under-sized.

Let I = normal rate of gain for child per month.

Let Io = number of pounds child is under-weight on basis of actual height.

Let Ih = number of pounds child is under-weight because of stunted growth.

Let T = number of months allotted for correcting mainutrition.

Then  $\frac{I. \times T. + Io + Ih}{T}$  = necessary rate of gain of child per month during corrective period.

when "T", is 2 years or 24 months, and "I" equals .73 pounds per month. This formula, when the calculations are completed, gives the result of 2.08 pounds per month or a gain of approximately three times the normal rate of gain. If the above formula is correct it should be possible on the basis of such computations to evaluate the progress in terms of what it should be and to determine on the number of months required for correcting malnutrition in the normal child after it is made free to gain.

\* These factors are not named in the order of their importance.

viduals involved, a task of exceeding difficulty and complexity; for, not only is a thorough and complete understanding of the situation necessary, but it necessitates also, an accurate analysis of the causes back of the situation in addition to the skill required to handle such delicate adjustments. In order to understand these conflicts and the attitudes back of them better, it would be helpful to study the family in its larger social relationships, and not only as isolated units, which has thus far been the practice in social agencies.

Another difficulty in attempting to do a piece of work of this kind was the time limit, which the organization set itself to accomplish this purpose. From what has been said about the difficulties encountered in an attempt to change the attitudes of the people involved, it will be clear that a great deal of time is necessary to accomplish such tasks when they present themselves. It is perhaps this consciousness of the limited time which was responsible for, what appears now, as an eagerness to complete a piece of work, the difficulties of which were out of proportion with the time required for such completion (two years). This perhaps was responsible for a too firm insistence upon cooperation from the families. While it must be admitted that with the stress under which the organization was working during this entire period\* the results would probably have been far less satisfactory than what they are had the requirements been less strict; nevertheless, it must be recognized also, that in dealing with human beings, a more flexible program is necessary. This may mean that if the Eisendrath Foundation is to continue functioning as it functioned during the last two years, a new plan of procedure will have to be worked out. At any rate, the present procedure will have to be modified considerably.

Perhaps it should be stated that while the writer feels that there can be no question as to the value of the supplementation plan when compared with an institutional plan, it should be pointed out that the ideal program would be a combination of the two. so that children which present unusually difficult and serious problems of malnutrition could be removed to an institution where they would be completely controlled, provided

that in the meanwhile the families would be worked with so that the home would be prepared for their return. Unless this be done, little of permanent value can be accomplished.

The workers who had an opportunity to work with the families under the Eisendrath Foundation plan are enthusiastic about the possibilities which it opens. They believe that the plan is sound and that the results already obtained demonstrate this. However, the experiences during the past two years have convinced them that the details under which the Foundation operates can and should be improved upon. Some of their suggestions are illuminating and throw light upon some of the facts presented in the case reviews:

First, they all emphasize the importance of very intensive case work. "In this work," says one worker, "the organization has to guard itself against danger. With the adequate allowance, the free medical examinations, and the attention given by the visiting housekeeper and dietitian, a sense of security was brought to the case workers on these families, so that the case work was not intensified in the majority of cases according to the plan." There is no doubt, that there is considerable justification for the above statement and that the tendency, on the part of the workers, was to rest content with the improvement in the physical aspect of the family problems, perhaps because of the unusual pressure of work, thus neglecting the more difficult and less obvious psychic problems.

Second, all the workers agree that the present plan involves a division of effort and responsibility, and that such division of responsibility is highly unsatisfactory. According to one supervisor, this is responsible for the poor record keeping as well as for a great deal of irritation in the families. They are confused by advice and supervision from at least four sources: the J.S.S.B. visitor, the visiting housekeeper, the medical social worker and dietitian, and where tuberculosis is involved, the health department nurse. "It is, therefore, not to be wondered at," says she, "that resentment grows and the feeling of being nagged at blinds the client to the purpose and aim of the program." This criticism is, unfortunately, sound, particularly, when it is borne in mind that some families dealt with five or six different visitors during this period in addition to the people above referred to. Over and over again, it

<sup>\*</sup> Invited 1919, 1920, and 1921, a great many administrative changes took place in the Jewish Social Service Bureau which necessitated difficult readjustments on the part of the staff. In addition the case load more than doubled during this period due to the industrial depression. This made the type of intensive case work and supervision which was originally planned for this group of families almost impossible.

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appears in the records, that supervision and advice came from so many sources and sometimes even conflicted so obviously that the family began to look upon it as interference rather than helpful guidance. In some cases, this constant interference resulted in so much irritation that the families refused to tolerate it, and therefore, asked that the supplementation be discontinued. In most of the other cases, it was looked upon as the price which had to be paid for the more adequate allowance. There seems to be no way of obviating this difficulty except, perhaps, by concentrating the work with the Eisendrath Foundation families so that one visitor and one supervisor would handle all of them. But even this has its limitations and weaknesses.

Third, one of the most frequent sources of irritation under the Eisendrath plan seems to be the practice of requiring the children to report to the nutritional clinic every second Saturday morning. "This time," says one supervisor, "is not wisely chosen." "Saturday morning is the one time that the children like to have to themselves. The mothers, too, are entitled to have one morning when there is to be no excitement and bustle such as occurs when the children are being prepared for school." She points out, further, that the distance which some of the children have to travel to the dispensary is entirely too great. In some cases, it means that the children must get up as early as half past six in the morning in order to be at the dispensary on time.\* When one realizes that some mothers have five or six children to prepare for the trip, one can readily see how irritation arises, particularly since the children frequently go for nothing more than mere weighing and measuring. "After all," says one of the other workers, "it is unfortunate to leave a mother with the impression that health measures are arbitrary and an impossible burden." "Perhaps," she suggests, "medical attention is one thing and frequent weighing and measuring another. . . . Many a weighing and measuring took place with great inconvenience, and perhaps ill feeling." In her opinion the social workers in contact with the families might safely be allowed to use their discretion more frequently in this matter. While this seems to be sound, it should be borne in mind, nevertheless, that for a period of about nine months, the frequent weighing and

measuring and dispensary trips were not resorted to, and that at that time very little progress was actually made. While it is possible that during these first nine months, the children were prepared through the development of more healthy living habits, for the gain which took place later, it must, also, be admitted that such gain, as can be pointed to, has taken place largely since July 1920 when the cooperation with the Michael Reese Dispensary was intensified. Still another worker feels that there is even a danger in having the children come to the Dispensary so often because "children do not differentiate between the nutritional clinic and the Dispensary, and are liable to have 'doctors' and 'sickness' and other thoughts associated with the Dispensary forced into their consciousness oftener than is good for them." It may be possible to work out some plan whereby the weighing and measuring can be done in the home so that the extra time required by Dispensary attendance may be eliminated. It would be unwise, however, to eliminate the incentive given the families and children by frequent measuring and weighing.

Fourth, from the above and other difficulties, too numerous to mention, it would seem that the program of co-operation required under the Eisendrath plan imposed a heavier task than the family was able to carry. This was discouraging to both the family and the worker. Some families will refuse to carry out instructions and should not be asked to do so mechanically. There must be opportunity for the mental rest necessary to assimilation. It is, perhaps, due to this lack of mental rest during supplementation that some cases which appeared hopeless and were dropped, showed decided improvement after discontinuation.

It is very gratifying to be able to state that the more adequate allowance through the Eisendrath fund has not led to pauperization of the families. This is perhaps due to the close supervision given and the high type of cooperation required under the plan in spite of what has been said above. At any rate, the families were made to feel that a special effort

<sup>•</sup> While this criticism seems to be justified, and while the organization was aware of the difficulty, no more suitable time could be found, for at other times the children would be obliged to stay away from school, a thing not to be thought of for obvious reasons. Nor could the dispensary accommodate the children at any other time so that if the dispensary were to be utilized for this purpose there seemed to be no escape from the price which had to be paid for this service.

was being made in their behalf for a limited period of time so as to give them an opportunity to become self-supporting, and they were made to understand that unless they gave evidence of progress under the plan, supplementation would be discontinued. In general the effect upon the families seems to have been either to utilize the opportunity to the utmost or to object to the close supervision.

The family incomes at the time accepted by the Eisendrath Foundation were compared with their respective incomes in October 1921, with particular reference to the earnings of the man where there was a man in the home. This comparison shows that in every instance the family incomes have been materially increased during this period. In comparing the income of the six handicapped men, before and after the experiment, it was found that their total monthly earnings, increased by four hundred and sixty-five dollars or 138%, and that the family income increased by \$873 per month or 177%. Some of this latter was due to children who were brought up to normal, and who went to work. At the time when the experiment was first begun, it was "aimed to give the family a taste of what normal living is, and it was confidently believed that, all things being equal, the family would make strenuous efforts to maintain itself on that level." This belief has now been confirmed, and the writer feels that if the experiment were a total failure in every other respect, it would still be of inestimable value, if only because it is the strongest argument for adequate relief. Of the six families which had the possibilities of becoming self-supporting, five are completely self-supporting on a better and healthier basis than they ever knew, and the sixth is to be established in self-support as soon as the appropriate business can be found for it. This could not have been accomplished without the Foundation's supplementation and the writer feels that this, in itself, more than justifies the experiment. It is not in adequate but in inadequate relief that the dangers of pauperization lie. The more intensive thought and work which have been given these families should be given all families in contact with social agencies.

The question which naturally arises, is whether these and the nutritional results are due to the adequate financial income or to the more intensive case work. I frankly admit that we do not know. We hope to be able to determine this by repeating the experiment with a control group. We are planning to select two groups of families insofar as possible with the same factors and potentialities. One group of twelve or fifteen families will receive the additional supplementation and intensive case work. The other group will receive the same kind of case work from the same case worker and supervisor, but will not receive the additional supplementation. While even this experiment may not be conclusive, we hope that it may throw a little more light on a perplexing problem.