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MIGRANTS' HEALTH AND ADJUSTMENT TO URBAN LIFE - SENEGAL

by

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I. Introductory Considerations

1. Recent years have witnessed the phenomenon of mass migration into the cities of the third world. The accompanying rapid demographic social and environmental change has implications in terms of health effects, not only for the migrants but also for the persons living in areas which the migrants leave and areas to which they go.

2. Migrants' health may be either improved or worsened after migration. Improvements can result from better nutrition, water supply, etc. A worsening of health can come about in several ways:

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a) Environmental contaminants existing in the city may cause new diseases or aggravate existing diseases. According to this hypothesis, one would expect to find an increase in specific diseases that are associated with some environmental contaminants (1).

There is also evidence that disease rates are higher in farm-born persons who have migrated to cities than in their urban-born counterparts, even though their total lifetime exposure is less (2,3).

b) Different social conditions such as crowding and promiscuity can increase transmissible diseases. This has recently been reviewed and such a relationship appears to be a far more complex phenomenon than originally envisaged.

c) Problems of planning and providing health care to changing population groups. This is a well accepted situation. Although rural health services in some of the third world countries are even less developed than in the urban areas, the lack of adequate health care may result in poor health.

d) Difficulties in adapting to a new way of life can produce stress, which may cause or aggravate diseases. The review of the literature shows that very few studies have been carried out in this area (5).

II. The Senegal Collaborative Study: Description and Evaluation (6)

1. Brief historical background

In order to understand better how migration affects health as well as to assist in health planning using the information gathered, a study was designed for Senegal in 1970 in collaboration with the Université de Dakar, the Office de la Recherche Scientifique et Technique Outre-Mer in Dakar and WHO with the cooperation of the Ministère de la Santé Publique et des Affaires Sociales.

2. Study Design and objectives

A particular tribal group (Serer) that was thought to be resistant to change and to have difficulty in adapting to new situations, was selected for study. A sample of rural residents and of migrants to the city of Dakar was examined in detail for various measures of health status, including indices of mental health. In addition to comparing rural to urban populations, attempts were made to test the idea that persons who do not adapt to urban life, the "incongruent" as Syme calls them, are at greater risk of disease. It was also postulated that persons with more financial and social support before migration might have less disease.

The specific objectives of this study were:

- a) To develop and refine hypotheses about urban migration and the health effects thereof;
- b) To test and develop methodologies needed for more definitive and large scale studies of the health effects of urban migrations;
- c) To explore the possibilities of using the findings for health planning.

3. Sampling of rural and urban populations

In the rural zone of Niakhar County - some 100 kilometres from Dakar - covering 65 villages with a total population of 35, 000 persons (about 95% of them belonging to the Serer ethnic group),

12 villages were selected on the basis of factor analysis. This analysis took into account the main demographic, economic and topographical characteristics of the villages. The sample thus constituted is representative of the population of the zone. The rural population sample as used in our analysis comprised 262 adults, 111 of them men and 151 women.

To make up the urban sample it was decided at the outset to select Serers from Niakhar who were related to persons in the rural sample and had emigrated to Dakar. This method proved unsatisfactory because of the difficulty of finding these people in Dakar. For that reason, a systematic census of Serers from Niakhar known to have their usual place of residence in certain quarters of Dakar was carried out and the study sample was made up on the basis of that census. The urban population sample used in our analysis comprised 225 adults, 126 of them men, and 99 women.

4. Methods of field study and analysis, particularly identification of indicators related to adjustment

Data Collection

Several surveys were carried out. The socio-demographic survey, the biomedical and mental health survey and the survey on housing and hygiene were conducted. All these different surveys were aimed at collecting information which could be used on the one hand to compare the conditions of physical and mental health prevailing in the rural and urban population samples, and on the other hand to identify the factors making for adaptation to Dakar life in the case of the groups constituting the urban sample.

Thus, in the socio-demographic survey, the questionnaire used enabled information to be collected which provided detailed characteristics of the rural and urban samples. Furthermore, in the case of the urban sample, the information sought was specifically concerned with conditions of migration to Dakar and adaptation to urban life.

In the biomedical and mental health survey (7) the persons in both samples were subjected to a certain number of clinical examinations and biological tests and were also asked to answer a questionnaire evaluating their mental health status, so that the symptoms and syndromes prevalent among the population could be determined.

Finally, in the survey of housing and hygiene the questionnaire method used made it possible to distinguish and describe the major pathogenic factors in the rural and urban environment, especially those relating to housing, including sanitation and other characteristics of the physical environment.

Data Analysis

For the most part the analysis compared rural to urban groups for socio-demographic and medical findings. Thus, proportions of discrete characteristics and means of continuous variables in the two groups were compared. It was also desirable to see within the urban sample whether adaptation was related to selected bio-medical variables. The first task was then to define adaptation. We took as our starting point a questionnaire in which the responses to the questions were supposed to reflect how well the respondents had adapted to the urban life. Various methods were developed and used to obtain the groups who adapted and who did not. Then we correlated the adaptation scores of each group with relevant bio-medical variables.

5. Selected medical findings, including mental health, and their relation to socio-demographic characteristics

a) Comparison of the rural and urban populations

The distribution by age-group, sex and marital status for rural and urban population samples shows that urban migrants tend to be younger than rural dwellers and that the population of single females is twice as high in the urban sample. From the socio-cultural point of view the comparison shows that "non-religious" and "traditional practices" remain importantly active in the rural area while decreasingly significant in Dakar city among the urban migrants. This may reflect the increasing influence of Islam among the urban population. On the other hand, and as expected, the educational level, as measured by school attendance and number of years spent in school, is much higher among urban dwellers with noticeable differences between adult females and males in favour of the latter. 52% of the urban males and 12% of the urban females had attended primary school against 25% of the rural males and 3% of the rural females. This sex-differential is confirmed by other indicators such as ability to read French. On the socio-economic side, various comparisons made between rural and urban samples, including changes in diet, composition of food consumption, clothing, housing conditions, reflect a change in attitudes and behaviour which may be seen as the consequence of acculturation and urbanization. Some of these changes also appear to create or develop problems and worries for the majority of urban migrants, especially the single females. As to interpersonal relationship with individuals or groups other than Serer, they seem not to differentiate among males and females in both rural and urban study areas, except that the females in the city report more "antipathy" to non-Serer because of "doubtful morality" than do men. Finally, the data on some health problems as perceived and dealt with the rural and urban dwellers do not show major differences. However, we observe that while urban males continue to trust both folk and modern therapy, females tend to believe more in modern medicine when living in the city.

Three areas of medical concern were studied in particular: precursors to coronary heart disease, (CHD), anemia, and infectious diseases. Little difference was observed between rural and urban populations for most of the precursors of CHD measured, except that the urban sample had higher levels of cholesterol and the males smoked more cigarettes. Anemia was more common in the rural area in both sexes. As for infectious diseases, more malaria, intestinal parasites and tuberculosis was found in the rural samples. Schistosomiasis was quite common in both the urban and rural samples.

In regard to mental health, the results of the field investigations show how necessary it is to develop and use techniques adapted to African culture and living conditions. From the point of view of psychophysiological syndromes, the men "somatize" these conditions more than the women and the syndromes are more frequent in the urban environment. This difference is all the more interesting in that depression and anxiety, the most important psychoneurotic syndromes, are about the same or less frequent in the urban males and females as compared to the rural groups. Depression and

anxiety are more common in women. As for psychiatric syndromes, appreciable differences can be seen between the rural and urban groups, particularly in regard to cerebral syndrome and personality disorders, although these last remain difficult to interpret. This is all the more so in view of the fact that these personality disorders might have been expected to increase in the urban environment.

Finally, as regards housing and hygiene the comparison revealed interesting features related to the quality and quantity of water (water more readily available in the towns and bacteriologically and chemically clean enough to drink; intense faecal contamination of the water in rural areas), and to waste disposal which, although markedly better in the urban environment, raises the problem of abnormally high faecal contamination of the soil because of the high population density and overcrowding in Dakar.

b) Conditions of adaptation to urban life

The socio-demographic questionnaire submitted to the town dwellers comprises a few questions which might a priori reflect the degree of adaptation to urban life. These questions relate to certain types of social behaviour which are considered to indicate the degree of adaptation: e.g., regularity of work, attendance at clubs, relationships with non-Serers, type of medical treatment used, etc. In all there are 18 questions of this kind. By applying certain methods of analysis which link socio-demographic characteristics with health conditions the seven best questions in terms of a high weighting coefficient were first selected. These questions are the following:

- (a) Length of residence in Dakar
- (b) Inter-personal relationships with Serers
- (c) Attendance at Serer "clubs" and responsibilities accepted
- (d) Existence of relationships with non-Serers
- (e) Types of relationship with non-Serers at work, at home, or during leisure time
- (f) Desire to meet non-Serers
- (g) Number of leisure activities

After the seven best questions had been selected, one of the methods of analysis was again applied, but this time to sub groups of the urban population. These sub groups comprised the men, the unmarried women and all the other women. Between the first and the third groups no great difference was found, whereas the unmarried women differed from both the other sub groups. Indeed, a larger number of unmarried women had low scores: in this case a low score indicates a poorer degree of adaptation. These adaptation scores were subsequently correlated with physiological variables for all three sub groups. These coefficients of correlation were close to zero for the men. In the case of women there were two significant correlations, but they were low: a positive correlation between cholesterol level and adaptation, and a negative correlation between protein level and adaptation. Although the unmarried women make up a smaller sub group than the two others (about 20 persons), there are several interesting correlations. However, only two are statistically significant at a probability level below 0.05. A negative correlation was found between arterial

pressure and the two types of transaminase on the one hand, and adaptation on the other, while there was a positive correlation between protein level and adaptation.

6. Practical implications for health programmes and planning

- a) The Senegal collaborative study made it possible:
 - i) to study some major public health problems in rural areas and in the urban zone related to the conditions of rural-urban migration and adaptation to life in Dakar;
 - ii) to identify groups who are at high risk to disease and have difficulty adapting to urban life.
- b) Two sets of major problems come into prominence as a result of the collaborative study:
 - i) the problem of communicable diseases, such as malaria, intestinal parasitic disorders, bladder schistosomiasis and tuberculosis;
 - ii) the problem raised by sociodemographic conditions of adaptation to urban life for the migrant population studied: risk of arteriosclerosis; somatic expression of psychological problems in the case of adult men in the city; social behaviour.
- c) During the collaborative study certain actions indirectly related to the specific objectives of the study have been taken into consideration, among which are the following:
 - i) the measures appropriate to deal with the communicable disease situation have been summarized in a note addressed to the Ministry of Public Health and Social Affairs by the members of the Dakar team; the note emphasizes medical public health activities (education and sanitation);
 - ii) measures adapted to the situation in regard to nutrition have been discussed by the Committee for the Development of Public Health Services at the Ministry which laid particular emphasis on weaning policy, the availability of foodstuffs and alterations in dietary habits connected with urbanization.
- d) The measures which might be advocated in regard to the adaptation situation may be summarized as follows:
 - i) social and educational activities and public health information directed at persons who have already immigrated into the city, through the promotion or strengthening of reception bodies (employment, lodging, health education);
 - ii) organization of sociocultural and demographic conditions.
- e) Finally, the study brought out the magnitude of health needs (results of the biological tests as well as the opinions expressed by the respondents themselves). The study has shown the preference for traditional medical practices, particularly in the rural sample.

III. Bases for discussion with particular emphasis on how future action oriented studies might be designed

Space does not allow for a detailed discussion as to how future studies of the health effects of urban migrations might be planned in order to clarify some of the underlining factors in this area, and to assist decision makers in planning and providing health care. Our experience in Senegal has led us to identify some important issues as follows:

- a) The selection of study areas and comparison population groups should be based on available data, analysis and local expertise. Furthermore, the sampling of rural-urban populations should attempt to match and stratify rural-urban samples.
- b) The design of the field instruments should not be guided only by the objective of comparing rural to urban dwellers (8).

Thus, the socio-demographic questionnaire should aim at measuring adjustment by means of aggregate factors and evaluative indicators. This applies also to the health indicators which should aim at detecting high risk groups and classes of prevailing diseases. In both cases it appears essential in studies of this type that the data be collected carefully and with standard instruments.

- c) The use of analytic methods including questionnaire analysis and multivariate techniques is required because of the complexity of socio-demographic and medical data. However, such analytic methods are only of meaningful use if the data are good enough and if computer facilities exist and are not too expensive.
- d) The problem of planning and providing health care to changing population groups should be taken into consideration when planning studies of this type. For instance while the migrants may benefit from the increased availability of health and other social services, it is obvious that they are competing with the established residents for these services. This aspect should be incorporated in the design of a study on the health effects of urban migration together with changing patterns in the utilization of health services and related impact on traditional versus modern medical practices.

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Résumé

La migration à large échelle vers les villes constitue l'un des changements socio-démographiques profonds qui se produisent à l'heure actuelle dans le monde en particulier dans les pays du tiers monde. Par ailleurs, il y a longtemps qu'on a remarqué que la vie urbaine était associée à une augmentation de risque de maladie. Afin de mieux comprendre les effets de la migration urbaine sur la santé, et d'autre part, d'essayer d'assister les responsables de la planification et de la gestion des services de santé, l'OMS a développé et mis sur pied, en collaboration avec des pays tels que le Sénégal, quelques études sur ce thème.

L'Etude Collaborative a été réalisée au Sénégal en 1970-1973 par l'Université de Dakar, l'Office de la Recherche Scientifique et Technique Outre-Mer (ORSTOM) et l'OMS avec l'assistance technique du Ministère de la Santé Publique et des Affaires Sociales. C'est une enquête ponctuelle dont l'objectif est l'étude de la migration urbaine et de ses effets sur la santé d'un échantillon de migrants Sérér originaires de l'Arrondissement rural de Niakhar, résidant à Dakar au moment de l'enquête. C'est aussi, et surtout une recherche appliquée désignée pour comparer deux échantillons ruraux et urbains

au triple point de vue socio-démographique de la santé physique et mentale et enfin de l'habitat-hygiène. L'analyse de l'échantillon urbain est conçue de façon à permettre de déterminer les conditions d'adaptation à la vie urbaine des sujets étudiés. Les membres de l'équipe collaborative y voient également la possibilité d'utiliser l'information à des fins de planification sanitaire en particulier dans le cadre du "Programme de développement des services de santé au Sénégal".

Les objectifs de cette étude ont été réalisés dans l'ensemble. Les résultats méthodologiques et de substance ainsi que les implications pratiques ont donné lieu à un rapport technique final rédigé par l'Equipe Collaborative (OMS, Etude Collaborative Sénégal IR-0656, Document SHS/73.1, Genève, Février 1973). D'autres publications scientifiques paraîtront cette année et l'an prochain dans diverses revues spécialisées.