

Impact of Piped Water Supply on the Incidence of Typhoid Fever and Diarrhoeal Diseases in Lusaka

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(Received for publication: 1st April 1976)

SUMMARY

The effect of piped water supply on the incidence of typhoid fever and diarrhoeal diseases in the City of Lusaka is reported. The incidence of typhoid fever and diarrhoeal diseases reduced in the City as the piped drinking water was extended to the Urban and peri Urban self-help settlements.

INTRODUCTION

Lusaka, the Capital City of Zambia, has grown very rapidly since Zambia's Independence in 1964, and in July 1970 the City's boundaries were extended from 49km² to 360km². With the extension of the boundaries, the City acquired urban and peri urban settlements which had developed on a self-help basis (previously referred to as Squatter Compounds). The migrants from the different parts of the Country built their own houses, but the Civic authorities did not have the infrastructure to provide water and sewers to drain the waste water. There was no provision for health and social services. The people dug out their own pit latrines for excreta disposal and shallow wells for the supply of water. The government provided drinking water with bowsers to the residents of these settlements. In spite of this facility, many residents of these areas used water from the shallow

wells for domestic purposes.

In 1973, the residents of these settlements embarked on fund raising campaigns to provide themselves with piped drinking water. The move was in the right direction and it was supported and encouraged by the Civic authorities. In addition as a measure for the prevention of entry of Cholera into the City, grants were given by the Central Government to the City Council to provide piped drinking water to all the major self-help settlements in the City (Bahl, 1975). As a matter of emergency, stand pipes were provided in these areas so that all the residents had an access to potable and wholesome supply of drinking water.

METHOD

In Zambia, typhoid fever is a notifiable disease. The cases occurring in the City are admitted to the University Teaching Hospital, Lusaka for confirmation of the diagnosis and appropriate treatment. The notifications of the disease for the period 1970 to 1975 were studied and are reported here.

The figure for the diarrhoeal diseases are those obtained from the urban health centres and clinics in the City. These are for the period 1972 to 1975.

RESULTS

These are tabulated as follows:

TABLE I
CASES OF TYPHOID FEVER NOTIFIED

Year	City's Population	No. of cases of Typhoid notified	Incidence per 100,000 of population
1970	278,000	24	9
1971	330,000	42	13
1972	363,000	22	6
1973	400,000	10	3
1974	420,000	4	0.9
1975	450,000	4	0.8

TABLE II
CASES OF DIARRHOEAL DISEASES REPORTED TO HEALTH CENTRES.

Year	City's Population	No. of cases of diarrhoeal diseases	Incidence per 1,000 of population (nearest whole number)
1972	363,000	122,833	338
1973	400,000	103,076	258
1974	420,000	98,850	235
1975	450,000	95,244	212

CONCLUSION

The provision of piped water supply, though on a communal basis, to the residents of the self-help settlements in the urban and peri urban areas of the City has helped in the reduction of both typhoid fever and diarrhoeal diseases in the City as a whole, as shown in the Tables I and II. Besides the supply of water, there have been no other improvements in the environments of these areas. Though typhoid fever is endemic in the City, most of the cases are reported from those areas of the City where the standard of environmental sanitation is poor. It can be argued

that since the water supply was extended to the self-help settlements in the City, its impact on the incidence of these two diseases should be restricted to these areas only. The argument is quite valid but in practice this is an impossible task for two main reasons:—

- (i) The City's populations in the self-help settlement is extremely mobile and the sick individual may move to a relative's place of residence in a different part of the City.
- (ii) Since there are no health centres/clinics in these areas, the residents seek medical aid from the health institutions situated in other areas of the City.

The evidence presented in this paper is indirect, but it does show that other things being equal provision of piped water helps in the reduction of the incidence of enteric fever and diarrhoeal diseases in the community.

The City Council of Lusaka has embarked on a major scheme to up grade the big self-help settlements in the City. When the up grading exercise is completed in the next three or four years, all these areas would have houses of a reasonable hygienic standard, liberal supplies of treated water, refuse removal service and health and social facilities. These facilities would go a long way in improving the health of residents of the City. Further studies would need to be undertaken to show the impact of these facilities on the incidence of various diseases in the City.

ACKNOWLEDGEMENT

I wish to thank the Permanent Secretary, Ministry of Health for permission to publish and the Director of Medical Services for his valuable comments.

REFERENCES

Bahl, M.R. Medical Journal of Zambia (1975), 9, 2, 56.