Morbidity patterns among pre-school children of migrant mothers in Sri Lanka

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Abstract

Objectives –

To assess the prevalence and morbidity pattern, health care seeking behaviour and the distribution of some factors associated with morbidity among three defined groups of pre-school children from a low socio-economic background, in relation to the maternal employment status. Special emphasis was given to the children of mothers employed overseas.

Methodology –

Three groups of children between ages 13 –59 months from three MOH areas in the Colombo district were selected for the study.

Group 1- children whose mothers were working overseas as a domestic helper for a period of more than 06 months.

Group 2- For each child in group 1, a child matched on age and sex, having a mother employed in Sri Lanka for more than six months, was identified from the same neighbourhood.

Group 3- Similarly, a child matched on age and sex, whose mother was not formally employed was identified from the same neighbourhood.

An interviewer administered questionnaire was used to collect information on socio-economic status of the children, health care utilisation patterns and some factors associated with morbidity.

After the preliminary household survey, all the children were followed up for a period of six months by the Public Health Midwife (PHM) using an information sheet to record information on episodes of illnesses the children experienced.

Results -

Some of the variables which were differently distributed in the three groups were educational level of the father, indulgence in alcohol and drugs among the fathers, marital disharmony in the families, gardens with faecal pollution, number of visits to the Child Welfare Clinic. The highest mean number of illness episodes were seen in the group 1 (2.8) compared to groups 2 (2.0) and group 3 (2.4).

Conclusions -

Women of low income groups seek employment overseas, to improve their economic standards. The pre-school children of these mothers seem to be an important group for which special child welfare activities should be aimed at.

Introduction -

With increasing female literacy rates and increasing economic pressures more and more females continue to join the work force, moving away from their traditional role in the home. In Sri Lanka, the proportion of females in the work force has increased from 21.8% in 1946 to 37.2% in 2000(1). When a mother is employed outside the home, a new set of problems arises with regard to child care.

In recent years, females in the low socio-economic classes have gone a step further, seeking employment overseas as domestic helpers, leaving young children with relatively inadequate child care arrangements. In a low socio-economic background, social disadvantage and lack of resources are naturally inherited by young children. Studies have shown that poor socio-economic conditions are synergistically related to morbidity in children. Illness is more likely to occur in unsanitary conditions experienced by poor families and, such families are less likely to receive adequate medical care. Moreover, illness of a family member places an additional burden on the economic resources of the family (2). Prevalence of illness has been observed to increase with the educational level of the mother (3). Prospective studies have shown that certain infections are particularly important as causes of poor growth, influencing the well being of the child.

This study was carried out to assess the prevalence, morbidity pattern, health care seeking behaviour and distribution of some factors associated with morbidity among three defined group of preschool children from a low socio-economic background in relation to the maternal employment status with special emphasis on migrant mothers.

Methodology-

This study was carried out in three randomly selected Medical Officer of Health areas within the Colombo district. Available data indicate that this

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district has the highest number of women who migrated as unskilled workers (1). The study population included three groups of children.

Group 1- all children aged 12 -59 months, resident in the study areas, whose mother was working overseas as a domestic helper for more than 06 months.

To study the possible effects of the total absence of the mother, two comparison groups were studied.

Group 2- For each child whose mother was working overseas, a child of same sex and matched on age (+/- 3 months), having a mother employed in Sri Lanka for more than six months, from the same neighbourhood was chosen.

Group 3- Similarly, a child matched on age and sex, whose mother was not formally employed was chosen from the same neighbourhood.

Only children whose parents were employed in skilled, semi-skilled and un-skilled occupations were included in the study, in order to minimise variations in social classes.

Study instruments –

1.An interviewer administered questionnaire was developed to obtain data on socio-demographic characteristics of the child and parents, some information related to the physical environment of the home and child care practices.

2.Information on birth weight of the child was obtained from the Child Health Development Record (CHDR).

3.The current nutritional status was assessed using the anthropometric indices : weight for height and height for age.

4.All children included in the study, were followed up for a period of six months from the preliminary household interview, to study the morbidity pattern. The Public Health Midwife (PHM) (a member of the local primary health care team) of the area visited each home, once in two weeks, and collected information from the principal caretaker (PCT), on the occurrence of illnesses during the preceding two weeks. The mother or any other person who had the primary responsibility of looking after and being with the child was identified as the principal caretaker.

An episode of illness was defined as reporting of a symptom or group of symptoms irrespective of the duration of that particular episode. The number of episodes of illness, presenting symptoms and the pattern of health care use was sought and recorded during these visits using a information sheet prepared for this purpose. There were no drop-outs during the follow up period.

Results -

Characteristics of the children -

Each defined age Group had 137 children. There were 56 males (40.8%) and 81 females (59.2%) in each group. The age distribution shows that the highest proportion of children were in the age group 37 - 48 months (38.7%), with the proportions in the other age groups, 13 - 24 months, 25 - 36 months and 49 - 60 months being 19%, 22.9% and 19.5%, respectively.

The proportion of low birth weight children i.e. below 2500 grams, was highest for Group 1 (37.2%), the comparable figures for Group 2 and

Table 1. Information on some socio-demographic characteristics of the family

	Group 1 (n=137) %	Group 2 =137) %	Group 3 (n=137) %	Significance level
Mean age				
-Mother	26.8	29.6		P =.0001
-Father	30.2	32.7	32.8	P =.0005
Level of education >9 grade	50.8	56.8	43.8	
-Mother	29.4	56.3	58.8	
-Father				
Single parent	13.9	11.7	2.9	
Ownership of house living with a relation	54.7	26.3	26.3	P =.0000
Faecal pollution in the garden	46.7	32.1	40.1	P =.04

** absolute numbers have been used in the analysis

for Group 3, were 21.9% and 35.8% respectively. The differences between Groups 1, 2 and 3 were statistically significant (S.N.D.= 2.8 in both comparisons). The incidence of acute and chronic undernutrition at the time of the study was not differentially distributed among the three groups.

Table 2. Frequency of visits to the Child Welfare Clinic in infancy

Group	Mean no. of. visits	S.D.	Test of significance
1	5.41	1.84	
2	6.15	2.12	= f5.64
3	5.49	1.88	P= .0038

Distribution of children below –2SD in relation to 'Z' scores, for the two indices

The three Groups were similar in respect of birth order of the child, number of living children in the family, age gap between the index child and the sibling immediately elder and younger.

Characteristics of the parents-

In general, ethnic distribution of parents was similar, with more than 80% Sinhalese, 9% Tamils, 6% Moors and the others comprising Dutch Burghers and Malays. This was compatible with the ethnic distribution of the Western Province of Sri Lanka within which, this study was conducted. Similarly, over 80% of the parents were Buddhists and all other religious groups had a share of 5-6% of the population under study.

Some of the characteristics of the family which were distributed differently in the three Groups are shown in Table 1. The lowest mean age was seen in the mothers in Group 1 and the highest for Group 2. The same pattern was seen among the fathers also (Table 1).

The percentages of mothers with an educational level more than Grade 9 were higher in Groups 1 (50.8%) and 2 (56.9%), compared to non-working women in Group 3 (43.8%). Among the fathers, this pattern was different with a higher percentage of fathers who had an education above Grade 9 level at school in Group 2 (56.3%) and 3 (58.6%), than in Group 1 (29.4%).

In Group 1, 13.9% children belonged to single parent families (headed by mothers who were legally married but were separated from their husbands or widowed at the time of the study), while the comparable proportions in the other two Groups were 11.7% and 2.9%. Illegitimacy was seen only in Group 1 (2.9%). The proportion of fathers who were addicted to drugs was highest in Group 1 (18.6%) compared to Groups 2 and 3 (3.5% and 3.1% respectively).

Characteristics of the physical environment

A significantly higher percentage of children in Group 3 lived in their own houses (60.6%) compared to 39.4% and 54.7% respectively in Groups 1 and 2 (Table 1). Approximately 94% of the households in all three groups had latrine facilities. The types of latrines used were pit, bucket and water-sealed drainage. Chlorinated pipe-borne water was being used by more than 60% of the households. The source of water for the others was deep wells. The highest proportion of gardens with faecal pollution was seen in group 1 and the lowest was seen in Group 2 (Table 1).

Child care practices

The mother or any other person who had the primary responsibility of looking after and being with the child was identified as the principal caretaker.

In Group 3, the principal caretaker was the non-working mother of the child. In the other Groups, the majority of children were looked after by the grandparents, 61.2% in Group 1 and 73.6% in Group 2. The other children were looked after by a mixed group of caretakers which included fathers, domestic helpers, siblings, relations and neighbours.

Utilisation of preventive health care -

All the children in Group 3 had Child Health Development Record (CHDRs). These were available for 99% of children in Group 2 and 89% in Group 1. Information on the use of the child welfare clinics (CWC) for preventive health care was obtained on two parameters : attendance at the CWC and the immunization status of the child. Both these activities are known to influence the health status of a child.

Information was obtained from the CHDR or/and the records maintained by the PHM. For all three groups, the frequency of visits to the CWC showed a reduction with increasing age. For comparison, the average number of visits paid by the child to the CWC during each preschool year was calculated.

Throughout the first four years of life the highest mean clinic attendance was seen in Group 2 and the lowest in Group 1. A statistically significant difference between the Groups was observed only

during infancy as shown in Table 2. In Groups 2 and 3, approximately 99% of the children were completely immunised. The comparable proportion in Group 1 was marginally lower (i.e.95.9%.)

Morbidity Pattern -

A total of 998 episodes of illness were reported during the study period giving an incidence of 4.8/child/year. Three groups of children were compared with regard to the number of episodes using ANOVA and found to be significantly different (p=.004).

The six most common symptoms reported were studied in relation to age. These findings are presented in Table 3 (1 indicates the commonest symptom and 5 the least reported symptom). It is seen that in all age groups the commonest set of symptoms were colds and coughs. Fever was the second commonest symptom. Loose motions (more than 4 loose stools a day), wheezing and skin wounds were the other common symptoms, the relative frequency of those being different in the different age groups.

Table 3. Six most common symptoms reported by age group

Symptom	Age group			
	1+ yr	2+yr	3+yr	4+yr
Cough + cold	1	1	1	1
Fever	2	2	2	2
Skin wounds	3	3	5	4
Loose motions	4	5	4	3
Wheezing	5	4	3	5
Other Symptoms	6	6	6	6

Cough was not reported alone but in combination with a cold. The other symptoms reported in small numbers were ear discharge, tooth ache, mumps, chicken pox and measles.

Study of differences between the three Groups showed that the highest number of coughs and colds were in Group 1 in all age groups (37.4%) with a comparable proportion of 27.7% and 34.8% in Groups 2 and 3 respectively. There were no major differences in the number of children with other symptoms between the three Groups.

Sources of curative health care used varied from General Practitioners to government and private hospitals. Home remedies were used and parents themselves were buying medicines over the counter for the presenting symptoms of their children. None of the above was used in some instances where the symptoms took the natural course of events.

Table 4. Summary of health care utilization practices in relation to the five commonest symptoms

Source of care	Symptoms				
	Cough/cold	Fever	Skin wounds	Loose motions	Wheezing
General Prac.	2	1	2	1	2
Govt. hosp	3	2	1	2	1
PCT's decision	5	4	3	4	0
Home remedy	4	0	3	4	0
No remedy	1	3	1	3	3

Patterns of health care utilization were related to the "symptoms". There were no major differences between the three groups, hence, the analysis was based on the total number of illness episodes reported during the period of follow up. A summary of health care utilization pattern in relation to the five commonest symptoms is given in Table 4. They are presented in the order of frequency. 1 indicates the first choice of care and 5 the source used by the lowest number of PCTs for the same symptom.

The PCTs of children with fever and loose motions chose General Practitioners as the first choice care. The majority of children with wheezing were taken to the government hospital directly, while most children with cough and cold were not given any treatment. Those with skin wounds had either visited the government hospital or had not taken any form of treatment, these proportions being equal. General practitioners were the most popular source of treatment (government hospitals being the second best choice) of the total study population under study as shown in Table 4.

Person who usually took an ill child for treatment

In Group 1, the majority of children (54%) were taken by a grandparent. In Group 2, even though the mother was employed away from home, most of the children were taken for treatment by the mothers or fathers (76.6%). The respective

percentage for Group 3 was 93.4% as shown in Table 5.

Table 5 . Person who usually took an ill child for treatment

Person/s	Group 1 (n= 137)	2 (n= 137)	3 (n= 137)
Father	24 (17.5)	8 (5.8)	8 (5.8)
Mother	--	95 (69.3)	114 (83.2)
Both parents	--	10 (7.3)	14 (10.2)
Grand parents	74 (54.0)	18 (13.2)	1 (0.7)
Others	39 (28.4)	6(4.3)	--

The risk of developing illness in children in relation to the availability of the mother was examined by calculating the Odds ratio as follows.

Each group was compared with group 3 which was thought to have no risk with regard to the availability of the mother at home. The risk of developing illness in the children of migrant mothers was 1.8 fold.

	Odds ratio	p value	Confidence interval
Group 2	0.729	.21	0.43 -1.23
Group 1	1.804	.02	1.08 – 3.01

Discussion -

This study was carried out to examine the influence of employment status of the mother, on the morbidity pattern of pre- school children of low socio-economic groups with a special emphasis on children of mothers employed overseas.

The findings indicate that, in general all the parents in the study population have had a middle level education. Fathers in Group 1 were less educated than their counterparts in the other groups and their wives. With employment opportunities available for female domestic helpers in the middle eastern countries, the mothers in Group 1 were in a better position to seek employment in those countries.

Children in group 1 seemed to have faced more unfavourable circumstances than their counterparts in the other three groups. Marital discord was seen mostly in Group 1 and 13.9% children in this group were living only with the mother before she left (Table 1). Hence, at the time of the study, these children had neither parent with them. More than half of the families in Group 1 (54.7% compared to 26.3% in both groups 2 and 3) did not own a house and were staying at a relative's house.

Aggravating the unfavourable circumstances, Group 1 had the highest proportion of fathers who were smokers, consumed alcohol and were drug addicts. It is possible that the number of persons who indulged in these activities would have been much more as people tend to give answers concealing socially undesirable behaviours (4).

Child care plays an important role in the aetiology of morbidity. The social environment of toddlers who were more often sick with mild sickness has been found to be less supportive of the child (2). A mother employed overseas, will have to be away from home for a continuous period of time, often more than a year. Out of the mothers who migrated overseas, 22.8% left their children while they were infants. This was not satisfactory, considering the type of physical care a young child would need unless adequate arrangements for child care is made, taking into consideration the non availability of established child care arrangements in the country.

The children in Group1 as well as those in Group 2 were mainly looked after by grandparents (61.2% and 73.6% respectively) while the children in Group 3 had their mother as the principal caretaker.

More than 60% of the houses in all three Groups had access to pipe borne water distributed by the state owned Water Supply and Drainage Board. Access to clean water across all socio-economic strata is a special feature seen in the Colombo city and the suburban areas. Although 94% of all the families had access to latrines more than 32% of them had the habit of disposing faeces of the children in the garden. Group 1 had more gardens with faecal pollution (46.7%) and overcrowding (54.7%) as most of them were living with relations, sharing their houses.

Given this background, Group 1 had the highest mean number of illness episodes and a risk of getting an illness episode 1.8 times more than in

the other children. It was interesting to note that the prevalence of acute (approximately 23%) and chronic (approximately 14%) malnutrition was similar among all three Groups. In agreement with the morbidity pattern seen among the pre-school children in Sri Lanka, the commonest set of symptoms was related to upper respiratory tract infections. Loose motions, a proxy indicator of diarrhoeal episodes were low down in the list of priority (Table 3) except in the children within the 48-60 months age group where it was the third commonest symptom. (Diarrhoea which was the most important cause of pre-school mortality in Sri Lanka in the 1980s has also come down the list with the introduction of oral rehydration salt through the primary health care officers providing domiciliary care to mothers and children also had contributed to this finding).

Utilisation of preventive health care services through the child welfare clinics (CWC) also has direct bearing on morbidity of children. More than 89% of children had a CHDR in possession. Although all infants are supposed to visit the CWC every month for monitoring of growth, mean number of visits have been barely above 5 in all three groups instead of 12. Since more than 95% all three groups have completed the immunizations it seems as if they have been visiting the clinics only to get the vaccinations.

Since the Middle-eastern countries started recruiting females as domestic helpers, many women from developing countries have accepted such employment. The Sri Lankan government also has accepted on principle and encourages the foreign exchange earned by the women employed overseas but has not embarked on a regular programme to provide proper child care arrangements for the needy children. These children could have been at a disadvantage even before the mothers left them as shown in this study.

Recommendations -

A system should be developed where "at risk" children such as children of migrant mothers are identified and registered by the PHM who provides maternal and child care services at domiciliary level. Empowerment of caring adults : giving assistance to promote parenting skills and health education sessions with the help of the health volunteers on important areas such as nutrition, feeding children, preventing common childhood diseases could be easily done. These activities should be properly supervised by the medical officer of health at the MOH area level and at district levels by the relevant Medical Officer- Maternal and child Health (MO-MCH) through periodic audits.

A multidisciplinary approach could be initiated to help these vulnerable children. With the help of a team of officers who are under the Divisional Secretary e.g. Child Rights Promotion Officers, Samurdhi Officers, Social Services Officers and Women's affairs Officers, an integrated programme should be initiated to support these children. Multi-sectoral co-ordination should be welcomed and promoted at all administrative levels rather than trying to compartmentalise the services sought by the needy children.

Financial assistance could be sought from the Foreign Employment Bureau to set up day care centres for needy children with trained staff. The popular trend of trying to get these children institutionalised by the migrant mothers could be averted by setting up such centres. A small proportion of the money paid by the migrant mothers as registration fees at the Bureau could be used for this purpose. These centres should be monitored by the MO- MCH of the area with the help of the relevant local staff.

Acknowledgements -

We wish to thank NARESA for the financial assistance given to carry out this study and Prof. Lalini Rajapakse for helping us with the statistical analysis.

References -

1. Research Division, Sri Lanka Bureau of Foreign Employment. Statistical Handbook on Foreign Employment 1993, Colombo : Sri Lanka Bureau of Foreign Employment 1995.

2. Neuman C, McDonald M A, Sigman M, Bwibo N, Marquardt M. Relationships between morbidity and development in malnourished Kenyan toddlers. Paediatrics 1991 ; 88 (5) : 934-942.

3. Bhuiya A, Zimicki S, D ' Souza S. Socio-economic differentials in a rural area in Bangladesh. Journal of Tropical Paediatrics 1986 ; 32 : 17-23.

4. Abrahamson J H. Survey methods in Community Medicine. 4th Edition. Edinburgh. Churchill Livingston, 1990.