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FAMILY SELF MEDICATION IN CHILDREN ATTENDING A TERTIARY CARE HOSPITAL IN NORTHEAST INDIA

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ABSTRACT

This study was undertaken to determine the prevalence and determinants of family self-medication in children in northeast India. A validated structured interview schedule was used in 487 caregivers of children attending the out-patient department and in-patient ward of the department of pediatrics, Regional Institute of Medical Sciences, Imphal, India. The study schedule included questions related to the socio-demographic profile of the participants and their practice of self-medication for their children for the last 6 months. Descriptive statistics like mean and percentage were used. Chi square test was used for significance. A p value of <0.05 was considered as significant. The prevalence of self-medication was found to be 56.1%. The preference of self-medication was significantly dependent on the age of children. The preference was, however, not significantly dependent on gender, birth order of children, or educational and socio-economic status of parents.

INTRODUCTION: Children comprise a large percentage of the population in developing countries and are prone to many illnesses. The response of many families towards illness of their children is use of drugs without a prescription. This type of self medication (SM) is regarded as an important component of primary health care in most countries [1, 2].

SM increases the risk of adverse drug reactions, drug resistance, and masks the diseases especially in children. In Nigeria, the prevalence of SM among infants has been reported to be 47.6% [3].

A study conducted in Sydney revealed that 44% of parents administered wrong SM to their children [4]. In India, the prevalence of SM among pre-school age children has been reported to be 58.91% [5].

To the best of our knowledge, there is no study on the prevalence and determinants of SM in children across various age groups in northeast India. Such studies are essential to obtain a clear understanding of the present features of SM. This study was therefore undertaken to determine the prevalence and determinants of SM in children.

METHODS: This cross sectional study was conducted at the out-patient department and in-patient ward of the department of pediatrics, Regional Institute of Medical Sciences, Imphal. It was conducted after taking approval from the institutional ethics committee, for three weeks, in the month of April 2012.

A validated structured interview schedule was used as study instrument.

The interview was conducted in local language after taking informed oral consent from the participants. The interview schedule was adapted from questionnaire based studies of SM conducted previously [6, 7]. Data entry and analysis was done by using SPSS version 16 [8]. Chi square test was used for significance. A p value of <0.05 was considered as significant.

RESULTS: Out of 493 caregivers contacted for the interview, six did not provide verbal consent and were excluded from the study. The response rate was 98.9%. Out of total respondents, 52.8% were from rural and 47.2% from urban Imphal. Their mean age was 32.45±8.41 years.

The prevalence of SM was found to be 56.1%. 33% participants mentioned that their child's health was improved after SM, 63.8% mentioned that their child's health was not improved and remaining 3.2 % were not sure about the effect.

The various sources of SM were pharmacy (65%), left over previous prescription drugs (33.4%), and indigenous practitioners (1.6%). The reasons for SM and drugs used are shown in Figure 1 and Figure 2.
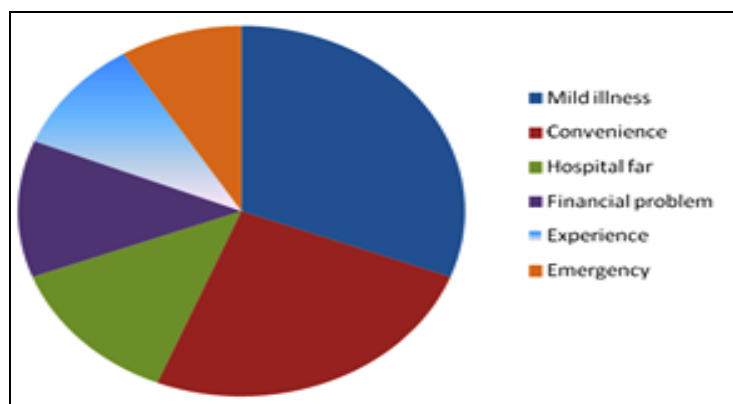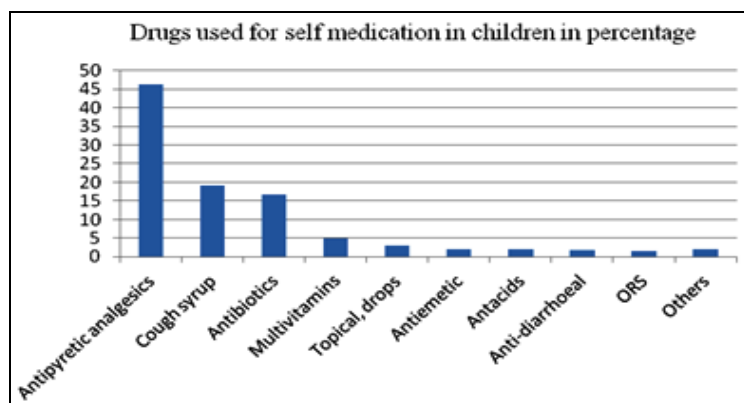

FIGURE 1: THE REASONS FOR SELF MEDICATION

FIGURE 2: DRUGS USED FOR SELF MEDICATION

The results for the determinants of SM are discussed below.

- **Gender:** Out of the total recipients of SM, 52.7% were males and 47.3%, female child. This difference was not found to be statistically significant.

- **Age:** SM was most common in the age group of 1 to 4 years (38.5%), and was least in the age group below 6 months (9.6%). The prevalence based on the age of children was found to be highly significant (p= 0.005). The results are shown in **Table 1**.

TABLE 1: PREVALENCE OF SELF MEDICATION PREFERENCE BASED ON THE AGE OF CHILDREN

Age	Self medication (Yes)	Self medication (No)
Less than 6 months	25(9.6%)	32(15.8%)
6 to 11 months	30(11.5%)	18(9.0%)
12 months to 4 years	100(38.5%)	75(36.9%)
5 to 9 years	68(26.2%)	47(23.2%)
10 to 15 years	37(14.2%)	31(15.1%)

- **Birth order:** SM was most common in the first child (37.3%). It was reduced in second (33.9%), third child (13.1%), and increased when there were four or more children (15.7%). This difference was not found to be statistically significant.

- **Parental education:** SM was found to be least in case of illiterate parents (Father: 3.8%; mother: 11.5%). It was found to be more with the increased educational status of the parents. But this difference was not found to be statistically significant.

- **Parental occupation:** SM was found to be most if mother is a house wife (73.5%), and father is self employed (45.4%). Parental occupation did not have significant association with SM.

- **Family income:** SM was found to be less in families with income less than Rs. 5000 per month (30.3%). It was more with family income of 5000 to 10,000/month (41.3%), and reduced with income above 10,000/month (28.4%). Family income did not have significant association with SM.

DISCUSSION: In this study, the prevalence of SM was found to be 56%. The most commonly used medications were analgesics and antipyretics (46.34%), cough syrups (19.22%), antibiotics (16.77%) and others (17.67%). These results coincide with previous studies [9, 10]. The reasons for SM were minor illness (30.6%), convenience (25.2%), and accessibility to hospital (13.2%), financial problem (12%) and others (19%). Various earlier studies have cited the same reasons [11, 12].

In this study, 47.2% participants were from urban and 52.8% from rural Imphal. Previous studies have reported more use of SM in people living in urban India [13, 14]. The reason for this difference could be the fact that this is a hospital based study. In this study, there was a highly significant difference (p=0.005) between the prevalence of SM based on the age of children. SM was common in the age group of 1 to 4 years (38.5%) and was less below 6 months (9.6%). This correlates with a study conducted in children at Sana, Yemen [15].

SM was least in the age group below 6 months. This positive finding may be explained by the fact that parents are not comfortable to give SM to young infants. The pharmacists also may be refusing to give medicines to young children.

In this study, there was no significant difference in the prevalence of SM based on the gender of children and also birth order. Previous studies have reported more use of SM in girl child [15]. This may be explained by a finding that sex ratio in urban Imphal community was favorable towards females [16]. Also, SM was found to be least in case of illiterate parents (Father: 3.8%; mother: 11.5%). It was found to be more with the increased educational status of the parents. It was, however, not significantly related to parental occupation.

Another study conducted on house wives in north India has shown that years of education are directly related to the use of SM [17]. However, a study conducted in Riyadh did not find any association between SM and occupation [18]. SM was found to be less in families with income less than Rs. 5000 per month (30.3%). It was more with family income of 5000 to 10,000/month (41.3%), and reduced with increase in income above 10,000/month (28.4%).

Family income did not have significant association with SM. Various previous studies conducted in slum dwellers have shown significant association between low economic status with use of SM [19, 20]. This study reveals that participants in the middle income group are more vulnerable to SM.

CONCLUSION: This study was conducted in a hospital set up with the idea of having children across all age groups and of urban and rural habitation. The prevalence of SM was found to be 56.1%. This preference was significantly dependent on the age of children. The preference was, however, not significant in relation to gender, birth order of children, or educational and socio-economic status of parents. This study, even though, was conducted for a short duration, could detect the prevalence and determinants of SM in children among 487 caregivers.

Such studies should be conducted for a long duration and in community covering larger population to identify the risk benefit ratio of SM. Appropriate measures should be taken to prevent the problems associated with SM. This should include awareness and education of family members and improvement in dispensing modes of drugs. This should be achieved through proper education of pharmacists, and enforcing regulatory and managerial strategies towards drug marketing.

REFERENCES:

1. Oshikoya1 KA, Njokanma OF, Bello JA, Ayorinde EO: Family self-medication for children in an urban area of Nigeria. Paediatrics and Perinatatal Drug Therapy 2007; 8 (3)124-30.
2. Abosede QA: Self-medication: an important aspect of primary health care. Social Science Medicine 1984; 19 (7):699-703.
3. Togoobaatar G, Ikeda N, Ali M, Sonomjamts M, Dashdemberel S, Mori R, *et al*: Survey of non-prescribed use of antibiotics for children in an urban community in Mongolia. Bulletin of the World Health Organization 2010; 88:930-36.
4. Pelletier A: *OTC* self medication: 44% of parents get the dose wrong for their children. Available from: http://health.doctissimo.com/health-news/otc-self-medication-44-of-parents-get-the-dose-wrong-for-their-children_2479.html [Last accessed on 2012 May 10].
5. Tibdewal S, Gupta M: Mother's use of medication in their children of pre-school age. Indian Journal Public Health 2005; 49(1)27-9.
6. Wijesinghe PR, Jayakody RL, Seneviratne RdeA: Prevalance and predictors of self medication in a selected urban and rural district of Sri Lanka. WHO South east Asia Journal Public Health 2012; 1(1):28-41.
7. Verma RK, Mohan L, and Pandey M. Evaluation of self medication among professional students in north India: proper

statutory drug control must be implemented. Asian Journal Pharmaceutical and Clinical Research 2012; 3(1) 60-4.

8. Spss. Available from: http://spss.co.in/spssstatistics.aspx. [Last accessed on 2012 May 30].

9. Shveta S, Jagmohan S: A study of self medication pattern in Punjab. Indian Journal of Pharmacy Practice 2011; 4(2)42-6.

10. Rajput MS, Mathur V, Yamini S, Nai RV: Pharmacoepidemiological study of self medication in Indore city. Indian Journal of Pharmacy Practice 2010; 3:25-31.

11. Kayalvizhi S, Senapathi R: Evaluation of the perception, attitude and practice of self medication among business students in 3 select cities, south India. International Journal of Enterprise and Innovation Management Studies 2005; 1(3)40-4.

12. James H, Shailendra S, Khalid H, Khaja AL, Otoom S, Sequeira RP: Evaluation of the Knowledge, Attitude and Practice of Self-Medication among First-Year Medical Students. Medical Principles and Practice 2006; 15:270–27.

13. Dineshkumar B, Raghuram TC, Radhaiah G, Krishnaswamy K: Profile of drug use in urban and rural India. Pharmacoeconomics 1995; 7(4):332-46.

14. Balamurugan E, Ganesh K: Prevalence and Pattern of self medication use in coastal regions of South India. British J Medical Practitioners 2011; 4(3):435-38.

15. Mabrook M: Self-medication with Antibiotic in Children in Sana'a City, Yemen. Oman Medical Journal 2010; 25; 41-3.

16. Brogen AS, Shantibala K, Rajkumari B, Laishram J: Determination of sex-ratio by birth order in an urban community in Manipur. Indian J Public Health 2009; 53(1):13-7.

17. Kaushal J, Gupta MC, and Jindal P, Verma S: Self-medication patterns and drug use behavior in housewives belonging to the middle income group in a city in northern India. Indian Journal of Community Med 2012; 37:16-19.

18. Saeed AA: Self-medication among primary care patients in Farazdak Clinic in Riyadh. Social Science Medicine 1988; 27(3):287-9.

19. Gupta P, Bobhate PS, Shrivastava SR: Determinants of self medication practices in an urban slum community. Asian Journal of Pharmaceutical and Clinical Research 2011; 4(3)54-7.

20. Durgawale PM: Practice of self medication among slum dwellers. Indian Journal of Public Health 1998; 42:53-5.