To determine the self-medication pattern among children

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Abstract---Aim: To determine the self-medication pattern among children. Methods: This study was conducted in the department of Pediatrics after obtaining due approval from the Institutional Ethics Committee; Bhima Bhoi Medical college & Hospital, a tertiary care teaching hospital of Western Odisha. All children from one month to fourteen years who attended the OPD were deemed eligible. Demographic and clinical characteristics were presented as frequencies and percentages. The prevalence of self-medication was represented as a percentage with a 95% confidence range. The Pearson chi-square test was used to examine the relationship between demographic characteristics and outcome variables, and a p-value less than 0.05 was deemed significant. Results: Out of the 400 children in the research, 130 had received self-medication from caregivers in the previous month, implying a 32.5 percent prevalence of self-medication. Fever was the most prevalent ailment for which self-medication was used in 320 children (80%), followed by cough and cold in 248 children (62 percent). Paracetamol was the most widely used drug, with 272 youngsters using it (68 percent). Cough and cold medicine was taken by 100 children (25%), while antibiotics were utilized by 90 children (22.5 percent) The average number of drugs utilized per patient was 1.6. The average length of self-medication was 2.7 days. Conclusion: Self-medication is practiced by 32.5 percent of youngsters. Fever, cough, and cold are frequent

ailments that lead to self-medication, with paracetamol, anti-cold medicines, and antibiotics being regularly utilized treatments. Previous prescription is usually used to get the medications, and prior experience with the effectiveness of the drug is the most prevalent explanation.

Keywords---children, OTC drugs, self-medication.

Introduction

Self-health management practices include assessment of symptoms, self-diagnosis, self-medication, prevention of disease, and health maintenance.[1] As a result, self-drug administration might be defined as the use of drugs (pharmaceuticals or botanicals) to address health problems in the absence of a professional diagnosis or prescription. [2,3] In this case, the later individuals might be family members, particularly if children or the elderly are being treated. [4] Pain relievers (analgesics), antimalarials, antibacterial, and cough syrups are examples of common self-medication medicines.[5] It has been shown that self-medication is cost-effective and, when used judiciously and responsibly may aid in illness prevention and treatment. [6]

Though some persons who use self-medication may claim to its usefulness when used appropriately, others misused drugs with no suitable instruction or reason. According to certain studies, over 67.1 percent of Jordanian adults take antibiotics to treat ordinary colds and coughs. [7] Self-medication medicines have been reported to include both over the counter (OTC) and licensed medications. Some people supplement their pharmaceutics with plant-based items.[6] When medications are given incorrectly without understanding of the related risks and contradictions, they may have potentially harmful and life-threatening consequences. [8-10] Aside from the negative consequences, self-medication may lead to microbial resistance resulting in the creation of many resistant bacteria, making treatment harder and thereby increasing morbidity. [2,11,12] Children constitute a big proportion of the population in lower to middle socioeconomic countries and are vulnerable to a variety of ailments. Many families' answer to their children's condition is to utilize medications without a prescription. In most countries, this sort of self-medication (SM) is recognized as an essential component of basic health care.[13] The goals of this research are to assess the incidence and features of self-medication in our children, as well as the relationship between demographic variables and self-medication.

Methods and Materials

This study was conducted in the department of Pediatrics, Bhima Bhoi Medical college & Hospital, a tertiary care teaching hospital of Western Odisha. All children from one month to fourteen years who attended the OPD were deemed eligible. Children whose caregivers could not comprehend the local language or who refused to provide permission were omitted from the research. Following informed verbal permission, the structured questionnaire was delivered to the caregiver in the caregiver's native language and their responses were recorded. All

respondents provided their name, age, gender, caregiver connection to the kid, place of residence (rural or urban), distance from the closest available 24-hour health facility-both government and private, and socioeconomic status as measured by the Modified Kuppusamy scale.[14] Caregivers were asked whether the kid has self-medicated (by the parents/care providers) in the previous month. Details on the ailment for which the medicine was prescribed, the drugs taken, the duration, the source of the drugs, the reason for not visiting a doctor, and any adverse effects were recorded for individuals who responded in the positive. Demographic and clinical characteristics were presented as frequencies and percentages. The prevalence of self-medication was represented as a percentage with a 95% confidence range. The Pearson chi-square test was used to examine the relationship between demographic characteristics and outcome variables, and a p-value less than 0.05 was deemed significant.

Results

During the research period, 14500 children visited OPD, with 4552 of them attending on the prescribed days. Out of 4552 youngsters, 459 were chosen, with 39 being rejected because they could not speak the local language effectively. Twenty children's caregivers refused to participate in the research and were therefore omitted. The research included 400 children and their parents in total, with an 87.15 percent response rate. The average age of the youngsters in our research was 5.25 years. The male to female ratio was 1.56:1;   315 (78.75 percent) of the youngsters were from cities, while 85 (21.25 percent) were from rural areas. Within 2 kilometers of their home, 190 (47.5 percent) youngsters had access to a 24-hour government health facility. Seven children were from the upper socioeconomic class, while 89 and 304 were from the middle and lower classes, respectively.

Out of the 400 children in the research, 130 had received self-medication from caregivers in the previous month, implying a 32.5 percent prevalence of self-medication (95 percent confidence interval 28 percent - 35 percent). Fever was the most prevalent ailment for which self-medication was used in 320 children (80%), followed by cough and cold in 248 children (62 percent). Paracetamol was the most widely used drug, with 272 youngsters using it (68 percent). Cough and cold medicine was taken by 100 children (25%), while antibiotics were utilized by 90 children (22.5 percent) Table 2 lists the most frequent medicines used for self-medication in children. 240 youngsters (60 percent) took a single medication, whereas 160 used multiple medicines (40 percent). The average number of drugs utilized per patient was 1.6. The average length of self-medication was 2.7 days.

In 180 youngsters, a previous prescription was utilized to get the drug(s) (45 percent). In 144 children, the pharmacy was the second most prevalent source (36 percent). The mother was the source for 80 children (20%), followed by the father in 8%, grandparents in 8%, neighbors in 8%, and a nurse in 4 cases (1 percent). In 200 children (50 percent), the most prevalent reason mentioned was past-experience with medicine effectiveness, followed by the opinion that the sickness was too minor to merit a medical appointment in 120 children (30 percent). Another 60 (15%) did not contact a doctor owing to a lack of time, and 20 (5%) due to a lack of funds. When the association between the demographic

factors and self-medication was analyzed by univariate analysis, it was found that only age had a statistically significant association with self-medication (x^2 = 19.5, p = 0.001) (Table 1). Prevalence of Self-medication increased with increasing age.

Table 1
Demographic profile

Demographic profile	Groups	Self-medicated Number (%)=130	Not Self-medicated Number (%)=270	Chi-square test
	Below 1 years	20 (18.52)	88 (81.48)	
Age	1-6	60 (33.71)	118(66.29)	x^2 = 19.5
	6-12	35 (44.30)	44 (55.70)	p = 0.001*
	Above 12	15 (42.86)	20 (57.14)	
Sex	Male	74 (30.33)	170 (69.67)	x^2 = 0.88
	Female	56 (35.90)	100 (64.10)	p = 0.44
Residence	Urban	110 (34.92)	205 (66.08)	x^2 = 3.19
	Rural	20 (23.53)	65 (76.47)	p = 0.18
Distance (from nearest hospital)	< 2 km	50 (26.32)	140 (73.68)	x^2 = 1.11
	> 2 km	70 (35)	130 (65)	p = 0.22
	Upper class	4 (57.14)	3 (42.86)	x^2 = 1.44
Socio economic scale	Middle class	22 (24.72)	67 (75.28)	p = 0.32
	Lower class	104 (34.21)	200 (65.79)	

Table 2

Medicine	Number	%
Paracetamol	272	68
Cough and cold medication	100	25
antibiotics	90	22.5
Pain killer	44	11
Anti emetic	40	10
Ors	30	7.5
Others	20	5

Discussion

The prevalence of self-medication was found to be 32.5 percent in this research, which is close to the 37 percent prevalence recorded in an urban region in a study performed by NIN in Hyderabad, India. [15] Our findings are also consistent with a 25% rate of self-medication seen in the biggest German research, which included 17,450 youngsters. According to certain research, the prevalence is between 50 and 70 percent.[16-25] Previous research has shown that the educated and wealthy are more likely to self-medicate.[16,19] The fact that our research group was mostly from lower socioeconomic classes may have contributed to our participants' decreased incidence of self-medication. Furthermore, since our area has greater access to health care, self-medication may be regarded an indirect measure of the

quality of health care services. In this research, as in many others, fever, cough, and cold were the most prevalent symptoms addressed by self-medication.[17,19, 24] Paracetamol was the most often utilized self-medication medicine, followed by anticold drugs and antibiotics. This is consistent with previous investigations. [17,18] The use of paracetamol by a caregiver to reduce the fever of a febrile kid is permissible and recommended. Self-medication with antibiotics is strictly prohibited since it contributes to development of antibiotic resistance. Though several anticold drugs are available over the counter, their use in young children has resulted in many consequences, including death, and hence they are only allowed for use in children over the age of two. [26] However, according to a Cochrane study, the evidence supporting the effectiveness of anticold medications is inadequate. [27] As a result, their usage should be discouraged rather than condemned. A large percentage of youngsters self-medicate with more than one substance. Few research investigates whether patients use one or more drugs. The average length of 2.5 days seen in our research is consistent with previous investigations. [18]

The medication was most typically obtained with a previous prescription. Other popular sources were the pharmacist and the mother. This contradicts previous research that points to the pharmacist or mother as the most prevalent source. [20] Possible explanations include moms' poor educational level, which is reflected in their socioeconomic status. Using a past prescription also provides parents a false feeling of assurance that the medication is medically sound. On the contrary, a lack of clinical evaluation by a skilled medical expert leads to missed diagnoses and ineffective treatment. Though over-the-counter pharmaceuticals are legal to sell in pharmacies, the fact is that many pharmacies distribute drugs by untrained individuals who may not be able to offer the necessary information to their consumers. As a result, both procedures pose a major danger to children.

The most prevalent explanation mentioned was experience with the drug's effectiveness, followed by the opinion that the sickness is too minor to merit a consultation, which is consistent with other research's findings.[28] Minority stated a lack of time and money as a factor. Adverse responses were recorded in just two participants, and blood levels of the medicine were not tested since this was outside the scope of this research. Other research back up the notion that older children self-medicate more often than younger ones.[20,21] Other demographic characteristics such as gender, place of residence (urban or rural), distance from closest health institution, and socioeconomic class had no statistically significant relationship with self-medication. This may indicate the belief that the primary element motivating self-medication is attitude rather than need.

As previously mentioned, WHO acknowledges self-medication as part of self-care and outlines pharmacists' roles in self-medication.[29] The International Pharmaceutical Federation and the World Self-Medication Industry issued a joint statement encouraging prudent self-medication by outlining the roles of pharmacists and non-prescription pharmaceutical makers. [30] Responsible self-medication is defined as providing all relevant information about the medicine to the patient and using only non-prescription medications for self-medication. It will not be a threat to society until proper self-medication is performed. Furthermore, educational initiatives focused on young moms and adolescents

help reduce prescription-only medication usage. To prohibit the over-the-counter selling of prescription-only medications, strict regulation enforcement at the pharmacy level is essential. These techniques may help to reduce unwanted self-medication. Because this was a hospital-based research, caregivers expressed an interest in participating and provided a reasonable response. As a result, the response rate was high. Recall bias was reduced since self-medication history was obtained for a month rather than the 6 months-1 year timeframe used in previous trials.

Conclusion

Self-medication is practiced by 32.5 percent of youngsters. Fever, cough, and cold are frequent ailments that lead to self-medication, with paracetamol, anti-cold medicines, and antibiotics being regularly utilized treatments. Previous prescription is usually used to get the medications, and prior experience with the effectiveness of the drug is the most prevalent explanation. Older youngsters are more likely than younger children to self-medicate.

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