Original Article

Self-Medication Practices among Adults in A Rural Community of West Bengal : A Cross-Sectional Study

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Abstract

Background : Self-medication is a double-edged sword, it may be beneficial as well as harmful to the users. It is a common practice in developing countries like India.

Aims and Objectives : To estimate the prevalence of self-medication among adult rural population of West Bengal and to determine its association with relevant Socio-demographic characteristics.

Materials and Methods : It was a community-based analytical study with cross-sectional design, conducted in a village of West Bengal during December, 2022 - February, 2023, among 144 adult persons aged 18 years or more. Simple random sampling was used for selection of study participants. Data was collected by interviewing the study participants using a pre-designed, pre-tested structured schedule.

Results : Self-medication was prevalent among 65.3% of the study subjects, more among males (77.9%) than females (53.9%). It was more common in 18-35 years and 56-75 years age-group, about 3/4th in each group. This practice was significantly more among male gender (p=0.00), lower Socio-economic status (p=0.00), poor educational status (p=0.00), moderate-to-heavy activity of occupation and independent financial status (p=0.00). It was very effective for 62.8% of the users while 7.5% had adverse effects. Common conditions for self-medication were common cold, headache, body pain and fever. Local chemists were the commonest (51.1%) source of information for self-medication.

Conclusion : There is high prevalence of self-medication practices among rural population of West Bengal. Health education to people regarding responsible self-medication is necessary to prevent misuse and therefore, avoid deleterious effects of self-medication.

Key words : Adult, Cross-sectional Studies, Prevalence, Rural Population.

Self-medication is the selection and use of medicines by individuals to treat illnesses or symptoms recognized by themselves[1]. It is an important aspect in health-care system especially in developing countries like India. Recognition of responsibility of the individuals for their own health through health education and make them aware that professional care for minor ailments is often unnecessary are the keys that led to this relatively newer concept[2]. The Declaration of Alma-Ata in 1978 emphasized people's involvement to attain optimum health[3]. Also Ottawa Declaration of Health promotion in 1986 envisioned the key role of individuals and communities for achieving health[3]. Self-medication is instrumental for this direction. The WHO promotes responsible self-medication that would result in desirable benefits to the patients without overburdening the health-care delivery system[4]. But self-medication can be harmful as well, so it's a double-edged sword. It has several advantages eg, it facilitates better use of clinical skills, increases access to medication to the needy, better utilization of funding in public health programs etc[5]. Major problems related to self-medication are increased resistance of pathogens (eg, antibiotic resistance) and serious health hazards viz. adverse reactions and prolonged suffering. High levels of antibiotic resistance coincided with high prevalence of self-

Editor's Comment :

- There is high prevalence of self-medication practices among rural population of West Bengal.
- Responsible self-medication is need of the hour to avoid harmful effects of this double-edged sword.

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medication for antibiotics in many countries[6]. In India, self-medication, besides other factors, is at the root of anti-microbial resistance[7].

Self-medication practices are common phenomena in India. Various community-based studies have found the prevalence of self-medication in India from 12% to as high as 73%[8,9]. The practices of self-medication are influenced by factors such as Socio-economic status of patients, level of education, cultural practices in the community and various other factors[10].

With this backdrop, this study was conducted to estimate the prevalence of self-medication and determine the association between relevant Socio-demographic characteristics and self-medication practices, among rural population aged 18 years or more in West Bengal.

Materials and Methods

It was a community-based analytical study with cross-sectional design. The study was conducted at Ruiya Village of North 24 Parganas District, West Bengal during December, 2022 - February, 2023, among adult persons aged 18 years or more, who were permanent residents of the village for last 2 years. Those persons were excluded from the study who refused to give consent for the study or were unable to communicate verbally or were very sick.

Considering the prevalence of self-medication practice(p) of 50% in a similar study[11] and absolute precision(e) of 10% and applying the formula $n=Z\alpha^2pq/e^2$ (n=sample size, q=1-p) the calculated sample size was 119. The final sample size rounded off to 144. The complete list of adults aged 18 years or more, of the village was prepared by the help of local health workers and then the study participants were selected by simple random sampling technique until the desired sample size was reached.

Data was collected by interviewing the study participants using a pre-designed, pre-tested structured schedule in local language ie, Bengali. For self-medication practices, three months recall period was considered.

Collected Data were entered in Microsoft Excel, checked for duplicate and erroneous data entry and then imported into PSPP (v26) software for further analysis. Association was tested by Chi-square test and further analysis was done by Binary Logistic Regression.

At first, approval from the Institutional Ethics Committee (IEC) of College of Medicine and Sagore Dutta Hospital (IEC No: CMSDH/IEC/345/12-2022, dated: 17.12.2022) was sought for the study. Written informed consent was obtained from each study participant. Six pillars of Ethics ie, autonomy, beneficence, non-maleficence, justice, honesty and confidentiality of the collected information were ensured.

Results

Overall prevalence of self-medication practice was 65.3% among the study participants. The prevalence was higher for males (77.9%) than for females (53.9%). Most of the respondents in the study were in the age group of 36-55 years and self-medication practices were found to be more common in 18-35 years and 56-75 of age group. Self-medication practices were found to be more prevalent in less educated section of the respondents and also among lower Socio-economic classes. Self-medication practices were more prevalent among moderate-to-heavy workers. Self-medication practices were found to be significantly more among male gender (p=0.00), lower socio-economic status (p=0.00), poor educational status (p=0.00) and moderate-to- heavy occupation (p=0.00) by Chi square test (Table 1).

On Binary Logistic Regression analysis, this practice was found significantly more among male gender (p=0.00), lower Socio-economic status (p=.00), poor educational status (p=0.00), moderate-to-heavy activity of occupation(p=0.00) and independent financial status (p=0.00) (Table 2).

Among those who practiced self-medication, 62.8% reported it as very effective while only 7.5% had adverse effects. Common conditions for self-medication were common cold, headache, body pain and fever. Local chemists were the commonest (51.1%) source of information for self-medication (Table 3).

Discussion

The present study found prevalence of self-medication practices as 65.3% among the rural population, similar to a study in rural Uttar Pradesh, which reported the figure as 69%[12]. Another study from Telangana found that 80% of the rural population practiced self-medication[13]. However, another study

Table 1 — *Demographic Characteristics and Self-medication Practices of Study Participants (n=144)*

Characteristics	Total (%)	Self-medication practices		X^2, p value
		Yes Frequency(%)	No Frequency(%)	
Age-group (Years) :				
18-35	47(32.6)	34(72.3)	13(27.7)	
36-55	76(52.8)	45(59.2)	31(40.8)	2.654
56-75	18(12.5)	13(72.2)	5(27.8)	p=0.448
>75	3(2.1)	2(66.7)	1(33.3)	
Sex :				
Female	76(52.8)	41(53.9) 49	35(46.1) 27	9.116
Male	68(47.2)	53(77.9) 45	15(22.1) 23	p=0.003
Educational status :				
Illiterate	12(8.3)	9(75.0)	3(25.0)	
Primary	36(25.0)	33(72.2)	3(27.8)	20.029
Secondary	61(42.36)	37(63.9)	24(36.1)	p=.000
Higher secondary	27(18.75)	12(59.3)	15(40.8)	
Graduate	8(5.56)	3(37.5)	5(62.5)	
Socio-economic status (Modified BGPrasad scale, Dec 2022) :				
Class II	7(4.8)	3(42.9)	4(57.1)	
Class III	26(18.1)	11(42.3)	15(57.7)	11.457
Class IV	64(44.5)	43(67.2)	21(32.8)	p=0.009
Class V	47(32.6)	37(78.7)	10(21,3)	
Level of activity of occupation :				
No occupation	41(28.5)	22(53.7)	19(46.3)	
Sedentary	56(38.9)	32(57.1)	24(42.9)	12.252
Moderate	35(24.3)	30(85.7)	5(14.3)	p=0.007
Heavy	12(8.3)	10(83.3)	2(16.7)	
Financial status :				
Dependent	57(39.6)	44(70.2)	17(29.8)	2.193
Independent	87(60.4)	50(62.1)	33(37.9)	p=0.139
Total	144(100)	94(65.3)	50(34.7)	

from Uttar Pradesh reported lower prevalence of self-medication ie, 50%[11]. Self-medication practices were found to be more common in the age-groups of 18-35 years and 56-75 years in the current study. A study from Islamabad, Pakistan also found that self-medication practices were more common among younger age group of 15-30 years[14]. In the present study, the practice of self-medication was found to be significantly more among the males than the females similar to another study from Nepal[15]. Self-medication practices were found to be more prevalent in less educated section of the respondents in the present study, consistent with other studies from Uttar Pradesh and Nigeria[11,16]. On the contrary, Kaushal,

Table 3 — *Study Participants according to Different aspects of Self-medication (n=94)*

Different aspects of self-medication	Frequency(%)
Effectiveness of self-medication :	
Very effective	59(62.8)
Effective	13(13.8)
Not so effective	13(13.8)
Ineffective	09(9.6)
Reasons for practising self-medication :	
Mild illness	33(35.1)
Not wanted to go to doctors	14(14.9)
Emergency use	18(19.1)
Previous useful experience	21{22.3)
Monetary constraints to visit doctor/hospital	08(8.6)
Common health problems for self-medication :	
Fever	14(14.9)
Pain abdomen	07(7.4)
Headache	21(22.3)
Body pain	17(18.1)
Cough and cold	32(34.1)
Others	3(3.2)
Commonest Source of information for self-medication :	
Previous prescription	17(18.1)
Local chemist	48(51.1)
Family members and/or friends	11(11.7)
Electronic and/or print media	18(19.1)

Table 2 — *Association of Self-medication Practices and Socio-demographic Factors of the Study Participants (n=144)*

Socio-demographic factors	Self-medication Practices		OR(CI)	P value	AOR (CI)	P value
	Yes Number (%)	No Number (%)				
Age group (Years) :						
55 or less	79(64.2)	44(35.8)	1		1	
More than 55	15(71.4)	6(28.6)	0.72, (0.26,1.99)	0.523	0.57 (0.16,1.99)	0.380
Gender :						
Female	41(53.9)	35(46.1)	1		1.	
Male	53(77.9)	15(22.1)	0.33 (0.16,0.69)	0.003	0.19(0.07,0.52	0.001
Educational status :						
Primary or less	40(91.7)	6(8.3)	1		1	
Secondary or above	54(63.9)	44(36.1)	5.43 (2.10,13.99)	0.000	3.53 (1.21,10.30)	0.021
Socio-economic status (Modified BG Prasad Scale 2022) :						
Class III or higher	25(75.8)	8(24.2)	1		1.	
Class IV or lower	69(62.2)	42(37.8)	1.90 (0.79,4.60)	0.154	6.43 (2.02,20.49)	0.002
Level of activity of Occupation :						
None or Sedentary	62(63.9)	35(16.1)	.1		1	
Moderate or Heavy	32(68.1)	15(31.9)	0.83 (0.39,1.74)	0.623	0.14 (0.40,0.44)	0.001
Financial status :						
Dependent	44(72.1)	17(27.9)	1			
Independent	50(60.2)	33(39.8)	1.70 (0.84,3.49)	0.140	5.53 (1.80,16.99)	0.003

OR = Odds ratio, AOR = Adjusted Odds ratio

et al found that prevalence of self-medication was higher in well-educated persons compared to the illiterate or people with low education in Rohtak city, Haryana[9]. The current study also observed that self-medication practices were significantly more prevalent among lower socioeconomic classes compared to a study by Selvaraj, *et al*, which found the above practice more common among socio-economically better off section of population in Urban Puducherry[8].

Mild illness and previous useful experience were found to be the most common reasons for self-medication in the present study. Financial constraints or limitations of health-care facility were cited as common causes of self-medication in a study from Maharastra[17]. Common conditions for self-medication among the respondents in the current study were common cold, headache, body pain and fever which were consistent with a study from rural Uttar Pradesh,that found fever, pain and respiratory symptoms as common symptoms for self-medication[12]. Similarly, studies from Delhi and Ahmedabad, Gujarat found out fever and common cold as the common illnesses for self-medication[18,19]. Local chemists followed by electronics and print media were the common sources of information for self-medication in the current study. Similarly, the study from Nepal found that local chemists were the most common source of information about self-medication[15]. The study from Telangana stated that respondents primarily took advice from family, friends, and neighbours for self-medication[13].

Thus, this study revealed high prevalence of self-medication practices and the factors associated with, among the rural population of West Bengal. The study was not without any limitations, though. It could be more robust, if it was done in multi-centres including both rural and urban population and having larger number of participants. Health education to people regarding responsible self-medication is necessary to prevent misuse and therefore, avoid harmful effects of self-medication. Involvement of health personnel viz. doctors, pharmacists, ANMs and ASHAs will be of great help in this regard.

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