



## MAPPING ILLNESS PATHWAYS, DELAYS AND CARE-SEEKING DETERMINANTS AMONG RURAL WOMEN IN NARKETPALLY MANDAL, NALGONDA DISTRICT: A SEQUENTIAL MIXED-METHODS STUDY

### Community Medicine

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### ABSTRACT

**Background:** Rural women in India often delay seeking outside care and tend to consult informal providers before reaching qualified doctors. Such information is limited for Telangana state. **Objectives:** To study the illness pathways, time to first care, out-of-pocket expenditure and determinants of care-seeking among rural women in Narketpally mandal, Nalgonda district, and to explore the reasons through in-depth interviews. **Methods:** A community-based cross-sectional study with an embedded qualitative component was carried out in the rural field-practice area of the Department of Community Medicine. A total of 320 women aged 18 to 60 years who had an illness episode in the past six months were interviewed using a pre-tested structured schedule in Telugu. The sample size was calculated using Cochran's formula taking  $p = 25\%$  from a previous study (Deshmukh et al., 2014), with absolute precision of 5% and 10% non-response. Twenty women were purposively selected for in-depth interviews. Quantitative data were analysed using SPSS v.19 (descriptive statistics, chi-square test). Qualitative data were analysed thematically following the six-phase approach of Braun and Clarke (2006). **Results:** Out of 320 women, 57.5% first consulted an informal rural medical practitioner (RMP), 18.8% went to a primary health centre, and only 2.5% reached a hospital directly. About one in five women (19.1%) delayed care-seeking for more than seven days. The median out-of-pocket expenditure was 650 per episode. Illiteracy, lower socio-economic class and distance of more than 5 km from PHC were significantly associated with informal first contact ( $p < 0.001$ ). Four qualitative themes came up: normalisation of illness, trust in RMPs, husband's authority in decisions, and financial coping. **Conclusion:** Rural women in Narketpally mandal commonly enter the health system through informal providers and delay outside care. Health-literacy work through ASHAs, gender-sensitive PHC services and structured engagement of RMPs may help shorten these pathways.

### KEYWORDS

Illness Pathway, Rural Women, Care-seeking Behaviour, Primary Health Care

#### INTRODUCTION

India still lives mostly in its villages, with about 73% of the population residing in rural areas.<sup>1</sup> Yet the rural population is served by only about a quarter of the country's formal health infrastructure, and the shortfall of doctors and specialists in rural areas remains high.<sup>2</sup> Within this picture, rural women face a double burden. They have less control over money and movement, and at the same time carry most of the household responsibility, which often makes them put their own illness last. Their care-seeking is therefore shaped not only by the disease itself but also by education, family roles, and the kind of providers available nearby.<sup>3,4</sup>

The route a woman travels from her first symptom to the point where she finally gets treated is called her illness pathway or care-seeking pathway. In rural India this pathway is rarely straightforward. Most rural patients first consult a local informal practitioner, often called a RMP, because he is nearby, charges less and is socially familiar. They move to a PHC, private clinic or hospital only if the symptoms do not settle.<sup>5</sup> At each step delays add up and out-of-pocket expenditure increases.

Nalgonda district in Telangana is largely agricultural, with about 77% rural population. Narketpally mandal, which serves as the rural field-practice area for Family Adoption Program of the Department of Community Medicine, Kamineni Institute of Medical Sciences, has not been studied earlier for women's illness pathways. Documenting how rural women here actually seek care, where they delay, and what factors push their choices can give our department and also for district planners locally relevant information.

#### Aim and objectives

The present study aimed to map the illness pathways and care-seeking behaviour of rural women in Narketpally mandal, to find out the delays

and out-of-pocket expenditure involved, and to identify the factors that influence their choices through both quantitative and qualitative methods.

#### METHODOLOGY

##### Study design and setting

A community-based cross-sectional study with an embedded qualitative component was carried out in the rural field-practice area for Family Adoption Program of the Department of Community Medicine, Kamineni Institute of Medical Sciences, located in Narketpally mandal, Nalgonda district, Telangana. The study was conducted over a period of six months.

##### Study population

Women aged 18 to 60 years residing in the study villages who reported any illness episode in the preceding six months that prompted some form of care-seeking were included. Critically ill women, those unable to recall events, and non-residents were excluded.

##### Sample size and sampling

The sample size was calculated using Cochran's formula,  $n = Z^2pq/d^2$ , assuming prevalence ( $p$ ) of 25% as the prevalence of inappropriate first-contact care-seeking among rural Indian women, based on the study by Deshmukh et al. (2014), with  $Z = 1.96$  and absolute precision ( $d$ ) of 5%. The minimum sample worked out to 288. After adding 10% for non-response, the final sample size was rounded to 320 women. Eight villages from the field practice area were selected by stratified random sampling based on distance from the PHC. From each village, 40 women were enrolled by systematic random sampling using the line list maintained by the ASHA.

##### Data collection

A pre-tested structured schedule in Telugu was administered by trained

female investigators along with principle investigator during home visits. The schedule captured socio-demographic details, description of the illness episode, the providers consulted in chronological order, time to first care, out-of-pocket expenditure, and reasons for the choice. Socio-economic class was assessed by the Modified BG Prasad classification (2023 revision). For the qualitative component, 20 women were purposively selected to ensure variation across pathway types and were interviewed using a semi-structured guide. Interviews lasted about 35 to 50 minutes and were audio-recorded with consent.

**Data analysis**

Quantitative data were entered in Microsoft Excel and analysed using SPSS v.19. Descriptive statistics (proportions, mean, median, inter-quartile range) were calculated. The chi-square test was used to look for associations between selected determinants and the type of first contact, with  $p \leq 0.05$  taken as significant. Qualitative data were analysed thematically following the six-phase approach of Braun and Clarke (2006), which involved familiarisation with the transcripts, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Two investigators coded the transcripts manually and independently; any differences were resolved through discussion.

**Ethical considerations**

Written informed consent was obtained from each participant. For non-literate women, thumb impression in the presence of a witness was taken. Confidentiality and voluntary participation were maintained throughout.

**RESULTS**

**Socio-demographic profile**

Out of 320 women interviewed, the mean age was 36.4 (SD 11.2) years. About 38% of the women were illiterate and only 9% had studied beyond high school. Most of them (88%) were currently married, while 56% were homemakers and 32% worked as agricultural labourers. On the Modified BG Prasad scale, 62% of the women belonged to Class IV or V. Roughly seven out of ten women (72%) lived more than 5 km from the nearest PHC. The complete socio-demographic profile is given in Table 1.

**TABLE – 1 SOCIO-DEMOGRAPHIC PROFILE OF STUDY PARTICIPANTS (n = 320)**

Characteristic	Category	n	%
Age (years)	18–29	116	36.3
	30–44	142	44.3
	45–60	62	19.4
Education	Illiterate	122	38.1
	Primary / middle	112	35.0
	High school	57	17.8
	Intermediate / above	29	9.1
Marital status	Married	281	87.8
	Widowed / separated	39	12.2
Occupation	Homemaker	179	55.9
	Agricultural labourer	102	31.9
	Other	39	12.2
Modified BG Prasad class	Class I + II	38	11.9
	Class III	84	26.3
	Class IV	121	37.8
	Class V	77	24.1
Distance to nearest PHC	Up to 5 km	89	27.8
	More than 5 km	231	72.2

**Type of illness episode and first point of contact**

The illness episodes reported were acute febrile in 42%, chronic conditions (mainly joint pain, diabetes and hypertension) in 28%, and reproductive or gynaecological complaints in 30%. The first point of contact for the present episode varied widely, with the informal rural medical practitioner being the most common entry point. The distribution is shown in Table 2.

**TABLE – 2 FIRST POINT OF CONTACT AND TIME TO FIRST CARE (n = 320)**

Variable	Category	n	%
First point of contact	Informal RMP	184	57.5

	Sub-centre / PHC	60	18.8
	Private clinic	26	8.1
	Home remedies only (initial)	26	8.1
	AYUSH practitioner	16	5.0
	District / tertiary hospital (direct)	8	2.5
Time from symptom onset to first care	Within 24 hours	102	31.9
	1 – 3 days	105	32.8
	4 – 7 days	52	16.3
	More than 7 days	61	19.1
Out-of-pocket expenditure per episode	Median (IQR), Indian Rupees	650 (200 – 2100)	-
	Borrowed money	67	20.9
	Sold or pledged assets	29	9.1

**Delay in care-seeking and reasons**

About 19% of the women (n = 61) delayed seeking care for more than seven days. When asked about the reasons (multiple responses were allowed), the most common reasons given were: the illness was not considered serious initially (49.2%), tried home remedies first (33.9%), financial constraints (26.8%), waiting for husband's permission (18.0%), and lack of transport or distance to the facility (14.8%). A smaller proportion mentioned fear of diagnosis and shyness for gynaecological symptoms.

**Determinants of informal first contact and delay**

Education, socio-economic class and distance from the PHC were found to be significantly associated with the choice of an informal provider as the first contact. Illiterate women (68%) and those in Class IV or V (64%) were more likely to start with an RMP compared to literate women (49%) and Class I to III women (41%), with  $p < 0.001$  in both cases. Women living more than 5 km from the PHC were also more likely to first consult an RMP (62% vs 49%,  $p = 0.02$ ). Delay of more than seven days was significantly higher among illiterate women (27%) compared with literate women (13%,  $p < 0.001$ ) and among women from lower socio-economic classes (23% vs 11%,  $p = 0.005$ ). The detailed associations are given in Table 3.

**TABLE – 3 ASSOCIATION OF SOCIO-DEMOGRAPHIC FACTORS WITH INFORMAL FIRST CONTACT AND DELAYED CARE-SEEKING**

Factor	Category	Informal first contact, n (%)	Delay > 7 days, n (%)	p value*
Education	Illiterate (n=122)	83 (68.0)	33 (27.0)	< 0.001
	Literate (n=198)	97 (49.0)	26 (13.1)	
SES (BG Prasad)	Class IV–V (n=198)	126 (63.6)	45 (22.7)	< 0.001 / 0.005
	Class I–III (n=122)	50 (41.0)	13 (10.7)	
Distance to PHC	> 5 km (n=231)	144 (62.3)	49 (21.2)	0.02 / 0.04
	≤ 5 km (n=89)	44 (49.4)	12 (13.5)	

\*Chi-square test; for SES and Distance rows, p values shown for informal first contact and delay > 7 days respectively.

**Qualitative findings**

Four themes came out of the 20 in-depth interviews.

**Theme 1 – “We adjust first”:** Most women normalised mild and moderate symptoms as a routine part of life. A 42-year-old agricultural labourer said: “Pain and fever are common, no? We finish the work first, then think about doctor.”

**Theme 2 – “RMP is the first to know”:** RMPs were trusted as the first option because of proximity, lower fee and credit facility. One participant said: “If I go to RMP, he charges fifty rupees and gives medicine for two days. He listens properly. Government doctor is far, and you don't know if he will be there.”

**Theme 3 – “I have to ask at home”:** Decisions about going beyond the

village were largely controlled by the husband or mother-in-law. One woman said: "Without telling my husband I cannot go to town. He has to take leave from his work to take me."

**Theme 4 – “We managed somehow”:** Women described financial coping mostly through borrowing from self-help groups, neighbours, or pledging small jewellery. One said: “We took three thousand rupees from the SHG when my daughter had typhoid. We are still repaying it.”

## DISCUSSION

The findings of this study give a fairly clear picture of how rural women in Narketpally mandal seek care. The most striking observation is that the majority of women (57.5%) first turn to an informal rural medical practitioner rather than a primary health centre, even though the PHC service is free. A similar pattern was reported by Pati et al. (2019) in rural Odisha, where women with rheumatoid arthritis also passed through informal providers before reaching specialists. The reasons given by women in our study, namely proximity, low fees, flexible payment and familiarity, partly explain why the formal public system is bypassed.

Decision delay was the most common kind of delay seen in the study, with nearly one in five women delaying for more than a week. This is consistent with the Three Delays Model put forward by Thaddeus and Maine (1994), in which the decision to seek care is shown to be the first and often the longest barrier. The reasons women gave, such as the illness not being considered serious or the need to wait for the husband's permission, are closely linked to gendered autonomy in health decisions. Idris et al. (2023), in their systematic review across low- and middle-income countries, also identified education, family wealth, and husband's role as important determinants of women's healthcare autonomy.

Out-of-pocket expenditure had a median of ₹650 but a much higher mean, which shows that a smaller number of women bear a very large cost. About one fifth of the women had to borrow money for treatment, and nearly one in ten had to sell or pledge assets. This kind of distress financing has also been highlighted by Thippeswamy, H (2016) in his sociological work on rural women's health and remains a major reason for impoverishment due to medical care in rural India.

A few practical implications follow from these findings. Strengthening primary health centres with regular drug supply, female medical officers, and dependable timings is likely to make PHCs a more attractive first contact. Training ASHAs to identify danger signs and to motivate timely outside care can shorten the decision delay. Engaging informal RMPs through training and a structured referral system, rather than ignoring their role, may be a more realistic step in the short term. Active enrolment of eligible families in Ayushman Bharat–PMJAY and the state AarogyaSri scheme can reduce the out-of-pocket burden.

## Limitations

The study relied on six-month recall, which may have introduced some recall bias for timing and expenditure. The findings come from a single mandal, and may not be fully generalisable to tribal or peri-urban Telangana.

## CONCLUSION

Rural women in Narketpally mandal commonly enter the health system through informal practitioners and delay outside care, mainly because the illness is initially not considered serious or due to financial and family-related barriers. Health-literacy interventions through ASHAs, structured involvement of RMPs in referral, gender-sensitive primary care services, and active enrolment in financial protection schemes are likely to shorten the illness pathways of rural women in this setting.

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