

# Out Of Pocket Payments For Health Care Among The Elderly With Cognitive Frailty In Malaysia

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## Research article

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## Abstract

## Background

Recently, there is a concern on cognitive frailty, as a potent risk factors for dementia, functional disability, poor quality of life and mortality among elderly. Cognitive frailty is a reversible pathological transitional stage between healthy aging and disability; it is associated with increased health care utilization and co-morbidities. The study purpose was to identify socio-demographic characteristics, co-morbidities, and out-of-pocket payments for health care among elderly Malaysians with cognitive frailty.

## Methods

The study included all participants of the third phase of Malaysian representative LRGS-TUA community based study. Multiple types of data were collected through a structured interviewed questionnaire including Fried's test; Clinical dementia rating test; inpatient and outpatient health care utilization and amount paid.

## Results

A total of 1,006 participants were interviewed, with 66.18% response rate. Only 730 respondents found satisfying the inclusion criteria of not having physical disability or psychiatric problem, not terminally ill, and no history of alcohol or drugs abuse. The prevalence of cognitive frailty was 4.5%. Males represented 66.6%. Hypertension, high cholesterol level, joint pain, diabetes mellitus, and vision problems, were the most common chronic diseases among cognitive frail elderly in Malaysia (69.7%, 66.7%, 48.5%, 39.4% and 39.4%, respectively). During last six months, cognitive frailty participants utilized outpatient care at governmental clinic, governmental hospitals, and private clinics (60.6%, 21.2%, and 21.2%, respectively). Out of the cognitive frail patients, only 3.0% were admitted to hospitals during last year. Around half (53%) of the study participants were spending less than RM100 per six months for health care out of their pockets, while 26%, 13%, 8% of the study participants were spending RM101 to RM200, RM201 to RM300, and >RM300 every six months out of their pockets for seeking of care, respectively. The mean total out-of-pocket payments for six months seeking of care for elderly Malaysian citizens with cognitive frailty was around RM84 (SD = 96.0) per six months.

## Conclusions

Cognitive frailty is not a costly phenomena among elderly Malaysian citizens. Elderly Malaysians with cognitive frailty are probably characterized with good health and well controlled co-morbidities.

## Background

According to the international reports, human life expectancy has increased from 61.7 to 71.8 years between 1980 and 2015 [1, 2]. The percentage of elderly people out of the global population is increasing faster than any other age group [1]. More specifically, elderly aged 60 years and above. Currently, this age group of people approached 13% of the global population, with 3% annual growth rate [1].

Additionally, the expected global number of elderly people aged 60 years and over will increase from 900 millions to 2 billions between the years 2015 and 2050 [1, 3]. Consequently, geriatric related illnesses are expected to increase, leading to urgency of need to build comprehensive health care services that are appropriate for elderly needs [4]. This increase can be attributed to health care services advancement and increased access to it [4].

According to Hamid, Momtaz [5], the prevalence of successful healthy aging among older persons in Malaysia with setting aside any chronic diseases and mental dysfunctions is 13.8%. More recently there is a concern on the occurrence of double geriatric syndromes ie, Cognitive frailty, as a potent risk factors for dementia, functional disability, poor quality of life and mortality [6, 7]. Cognitive frailty can be considered as one of the subtypes of Frailty syndromes, in addition to physical frailty and psychosocial frailty [7–9]. It is characterized by reduced cognitive reserve to resist cognitive decline or impairment [10, 11]. It can be recognized as a heterogeneous cognitive condition that results from physical frailty and not from a known neurodegenerative disorder [6, 12]. Additionally, the etiology of this syndrome seems to be multifactorial, it can be linked with inflammatory processes, hormonal, vascular, nutritional, metabolic, and neuropathological influences [7, 8].

According to Kelaiditi, Cesari [10], cognitive frailty is not recognized as a disease, but rather considered as a syndrome; it is defined as an heterogeneous clinical manifestation characterized by the simultaneous presence of both physical frailty (also known as Fried's phenotype and CHS) and Cognitive impairment as defined by a clinical dementia rating (CDR) score of 0.5, without Alzheimer's disease or dementia or any other brain disease that can lead to dementia.

The aim of this study is to identify the socio-demographic characteristics, co-morbidities, and health care related OOP payments among elderly Malaysians with cognitive frailty.

## Methods

This is a cross sectional study conducted from March 2019 to November 2019. The study included all participants of the Malaysian representative LRGS TUA longitudinal community based study (Long term Research Grant Scheme - Towards Useful Aging). Patient approval and informed consent was obtained; each

patient was given full explanation on the aim of the study and its processes.

### Questionnaire

Data were collected through a structured interviewed questionnaire consisting of three different data collection tools that were previously published elsewhere: Fried's test of frailty [13]; clinical dementia rating test score (CDR) [14]; inpatient and outpatient health care utilization and payments assessment tool [15].

The first part of the questionnaire includes the five questions of Fried

test; based on the  $e \in d \in g$  of the test, patients are divided into three categories: Notail (also known as robust) ( $sc$  or  $e = 0$ ), pre-Frail ( $sc$  or  $e = 1$ ) -  $s$  test and a score of 0.5 in CDR test at the same sitting.

The third part of the questionnaire included the assessment of patient's medical history covering the previous year inpatient hospitalization and last six months outpatient care. The inpatient and outpatient health care utilization and payments part of the questionnaire was previously designed, validated, and used by Aljunid, Maimaiti [15]. This part of the questionnaire included patient's socio-economic background, information on morbidity, outpatient and inpatient care utilization, caregivers expenditure and the payer for the health care expenditure. Data collection were done at the primary health care facilities during the year 2019.

### Inclusion criteria

Participants are included in the study if they were: Malaysian citizens; aged 60 years old or above; have no physical disability (i.e. bedridden, using wheel chair); not terminally ill; have no psychiatric problem (i.e. Dementia and Alzheimer disease); have no history of alcohol or drugs abuse.

## Results

Table No. 1 presents the socio-demographic characteristics of the study participants. A total of 1,006 participants were interviewed out of the all participants of the LRGS TUA longitudinal community based study, with 66.18% response rate. 730 respondents fulfilled the inclusion criteria for the study. Participants were from Malay, Chinese, and Indian ethnicities (64.5%, 31.6%, and 3.9%, respectively). The prevalence of frailty was 8.1% ( $n = 59$ ) among the study participants. It was noticeable that state of Kelantan reported 67.8% ( $n = 40$ ) of frail cases from all types. More specifically, the prevalence of cognitive frailty was 4.5% ( $n = 33$ ), while other types of frailty represented 3.6% ( $n = 26$ ) out of the study participants. Cognitive frail participants were from state of Kelantan, Selangor and Perak (69.6%, 15.2%, and 15.2%, respectively), no cognitive frail cases were from Johor. Males represented 66.6% of the total sample. None of the single participants were diagnosed as cognitive frail cases. Participants with cognitive frailty were almost distributed evenly among age groups starting from 65 to 80 years old ( $n = 11, 9, 11$ ). Out of the cognitive frail cases, 72.7% ( $n = 24$ ) were with school level of education; the majority of the cognitive frail participants (97%,  $n = 32$ ) were not working and are categorized under low income group of people.

Table No. 2 shows the co-morbidities among the study participants. Hypertension, high cholesterol level, vision problems, and diabetes mellitus were the most common chronic diseases among elderly people in Malaysia (54.9%, 52.2%, 35.8% and 27.7%, respectively). More specifically, hypertension, high cholesterol level, joint pain, diabetes mellitus, and vision problems, were the most common chronic diseases among cognitive frail elderly in Malaysia (69.7%, 66.7%, 48.5%, 39.4% and 39.4%, respectively). It was noticeable that hypertension, high cholesterol level were more prevalent (73.1% and 69.2%, respectively) among elderly with other frailty types compared to not frail, pre-frail, and cognitive frail elderly. Additionally, 78.8% of cognitive frail participants expressed well health during the last two weeks. Furthermore, 15% of cognitive frail participants reported seeking health care at public and private clinics, none of them sought hospital care during past two weeks.

Table 3 shows the outpatient health care utilization findings of the study participants during the past six months. In total, 81.8% ( $n = 27$ ) of the cognitive frail patients reported a mean of 2.26 visits (with a maximum of 5 visits) for health care facilities seeking for treatment during the last 6 months. One way Anova test was conducted to examine the presence of significant differences between cognitive frail participants and other groups of elderly participants, namely: not frail, pre-frail, and other frailties. No statistically significant difference found in the number of visits among all participants ( $F = 2.451, P$  value = 0.062). During the past six months, cognitive frail patients utilized outpatient care at the governmental clinic, governmental hospitals, and private clinics (60.6%, 21.2%, and 21.2%, respectively); none of them sought outpatient care at private hospital, traditional medicine healers, and alternative health care. Around half of the cognitive frail patients (45.4%;  $n = 15$ ) visited governmental clinic more than one time (with a maximum of 3 visits). Only 18.1% ( $n = 6$ ) of the cognitive frail patients visited outpatient clinic at governmental hospitals more than one time (with a maximum of 3 visits). All cognitive frail patients whom visited private clinic ( $n = 7, 21.2\%$ ) did that one time only.

Table 1  
 Socio-demographic characteristics of the study participants

		<b>Not frail</b>	<b>Pre-frail</b>	<b>Other frailty</b>	<b>Cognitive frailty</b>	<b>Total</b>
		<b>N (%)*</b>	<b>N (%)*</b>	<b>N (%)*</b>	<b>N (%)*</b>	<b>N (%)</b>
<b>State</b>	Perak	41 (5.6)	134 (18.4)	2 (0.3)	5 (0.7)	182 (24.9)
	Selangor	30 (4.1)	154 (21.1)	3 (0.4)	5 (0.7)	192 (26.3)
	Kelantan	29 (4.0)	177 (24.2)	17 (2.3)	23 (3.2)	246 (33.7)
	Johor	36 (4.9)	70 (9.6)	4 (0.5)	-	110 (15.1)
	<b>Total</b>	<b>136 (18.6)</b>	<b>535 (73.3)</b>	<b>26 (3.6)</b>	<b>33 (4.5)</b>	<b>730 (100)</b>
<b>Gender</b>	Male	44 (6)	270 (37)	17 (2.3)	22 (3)	353 (48.4)
	Female	92 (12.6)	265 (36.3)	9 (1.2)	11 (1.5)	377 (51.6)
<b>Ethnicity</b>	Malay	62 (8.5)	361 (49.5)	22 (3)	26 (3.6)	471 (64.5)
	Chinese	69 (9.5)	156 (21.4)	2 (0.3)	4 (0.5)	231 (31.6)
	Indian	5 (0.7)	18 (2.5)	2 (0.3)	3 (0.4)	28 (3.9)
<b>Marital status</b>	Single	-	9 (1.2)	-	-	9 (1.2)
	Married	95 (13)	367 (50.3)	19 (2.6)	19 (2.6)	500 (68.5)
	Others	41 (5.6)	159 (21.8)	7 (1)	14 (1.9)	221 (30.3)
<b>Age</b>	65–70 Years	83 (11.4)	213 (29.2)	9 (1.2)	11 (1.5)	316 (43.3)
	71–75 Years	37 (5.1)	179 (24.5)	11 (1.5)	9 (1.2)	236 (32.3)
	76–80 Years	15 (2.1)	101 (13.8)	2 (0.3)	11 (1.5)	129 (17.7)
	81–85 Years	1 (0.1)	38 (5.2)	3 (0.4)	2 (0.3)	44 (6)
	> 85 Years	-	4 (0.5)	1 (0.1)	-	5 (0.7)
<b>Education level</b>	No Education	21 (2.9)	77 (10.5)	1 (0.1)	7 (1)	106 (14.5)
	School level	113 (15.5)	431 (59)	25 (3.4)	24 (3.3)	593 (81.2)
	Higher education	2 (0.3)	26 (3.6)	-	-	28 (3.9)
	Others	-	1 (0.1)	-	2 (0.3)	3 (0.4)
<b>Current job</b>	Not working	110 (15.1)	448 (61.4)	23 (3.2)	32 (4.4)	613 (84.0)
	Working	26 (3.6)	87 (11.9)	3 (0.4)	1 (0.1)	117 (16.0)
<b>Monthly income</b>	< RM 700	60 (8.2)	200 (27.4)	11 (1.5)	19 (2.6)	290 (39.7)
	RM 701–1400	30 (4.1)	128 (17.5)	11 (1.5)	8 (1.1)	177 (24.2)
	RM 1401–2100	20 (2.7)	103 (14.1)	2 (0.3)	5 (0.7)	130 (17.8)
	RM 2101–2800	4 (0.5)	30 (4.1)	1 (0.1)	-	35 (4.8)
	RM 2801–3500	13 (1.8)	33 (4.5)	-	-	46 (6.3)
	> RM 3500	9 (1.2)	41 (5.6)	1 (0.1)	1 (0.1)	52 (7.1)

\* Percentage out of total sample.

Table 2  
Co-morbidities among the study participants

	Not frail N (%)†	Pre-frail N (%)†	Other frailty N (%)†	Cognitive frailty N (%)†	Total N (%)	P-Value
Hypertension	68 (50)	291 (54.4)	19 (73.1)	23 (69.7)	401 (54.9)	0.051
High cholesterol	63 (46.3)	278 (52)	18 (69.2)	22 (66.7)	381 (52.2)	0.053
Diabetes mellitus	26 (19.1)	156 (29.2)	7 (26.9)	13 (39.4)	202 (27.7)	0.050*
Stroke	3 (2.2)	21 (3.9)	2 (7.7)	2 (6.1)	28 (3.8)	0.478
Joint pain	46 (33.8)	177 (33.1)	9 (34.6)	16 (48.5)	248 (34)	0.349
Heart disease	9 (6.6)	50 (9.3)	7 (26.9)	3 (9.1)	69 (9.5)	0.014*
Vision problems	51 (37.5)	191 (35.7)	6 (23.1)	13 (39.4)	261 (35.8)	0.534
hearing problems	17 (12.5)	70 (13.1)	6 (23.1)	7 (21.2)	100 (13.7)	0.279
Renal failure	2 (1.5)	16 (3)	4 (15.4)	4 (12.1)	26 (3.6)	0.000*
Chronic lung disease	3 (2.2)	5 (0.9)	-	-	8 (1.1)	0.507
Constipation	15 (11)	79 (14.8)	10 (38.5)	10 (30.3)	114 (15.6)	0.000*
Gastric ulcer	10 (7.4)	77 (14.4)	6 (23.1)	4 (12.1)	97 (13.3)	0.074
Cancer	4 (2.9)	15 (2.8)	-	-	19 (2.6)	0.632
Urinary problems	9 (6.6)	70 (13.1)	7 (26.9)	9 (27.3)	95 (13)	0.002*
† Percentage out of subgroups.						
* Statistically significant relationship.						

Table 3  
Outpatient health care utilization findings of the study participants during the past six months

	Not frail N (%)*	Pre-frail N (%)*	Other frailty N (%)*	Cognitive frailty N (%)*	Total N (%)
<b>Did you seek any treatment as an outpatient for the illness that you suffered in the last six months?</b>					
No	32 (4.4)	111 (15.2)	3 (0.4)	6 (0.8)	152 (20.8)
Yes	104 (14.2)	424 (58.1)	23 (3.2)	27 (3.7)	578 (79.2)
<b>Where did you seek treatment in the last six months?</b>					
Government clinic	67 (9.2)	275 (37.7)	15 (2.1)	20 (2.7)	377 (51.6)
Government hospital	21 (2.9)	126 (17.3)	7 (1)	7 (1)	161 (22.1)
Private clinic	24 (3.3)	68 (9.3)	3 (0.4)	7 (1)	102 (14)
<b>How many times did you get treatment in government clinic during the last 6 months?</b>					
One visit	34 (4.7)	93 (12.7)	8 (1.1)	5 (0.7)	140 (19.2)
Two visits	27 (3.7)	126 (17.3)	4 (0.5)	11 (1.5)	168 (23.0)
Three visits	7 (1)	46 (6.3)	3 (0.4)	4 (0.5)	60 (8.2)
<b>How many times did you get treatment in government hospital during the last 6 months?</b>					
One visit	12 (1.6)	64 (8.8)	3 (0.4)	1 (0.1)	80 (11)
Two visits	6 (0.8)	44 (6)	5 (0.7)	4 (0.5)	59 (8.1)
Three visits	2 (0.3)	18 (2.5)	0 (0)	2 (0.3)	22 (3)
<b>How many times did you get treatment in private clinic during the last 6 months?</b>					
Non	112 (15.3)	463 (63.4)	23 (3.2)	26 (3.6)	624 (85.5)
One visit	17 (2.3)	51 (7)	3 (0.4)	7 (1)	78 (10.7)
* Percentage out of total sample.					

It was noticeable that cognitive frail patients are not utilizing inpatients hospital care, only 3.0% of cognitive frail patients (n = 1) were admitted to governmental hospitals during last year, myocardial infarction was the diagnosis for this admission, no cognitive frail participants were admitted to private

hospitals.

Figure 1 shows the type of vehicles used for transport to outpatient health care facilities during the past six months. The most common type of vehicles used among cognitive frail elderly and all elderly categories (Not frail, pre-frail, other frailties) were private cars and motorcycles, while public transport was not commonly used.

Figure 2 shows the study participant's total spending categories out of their pockets for seeking of care during past six months. As shown in Fig. 2, more than half of the study participants (52.5%) were spending less than RM 100 per six months for seeking of care services of their pockets, while 26.4%, 12.7%, 8.4% of the study participants were spending RM 101 to RM 200, RM 201 to RM 300, and > RM 300 every six months of their pockets, respectively. Chi-Square test was conducted to examine the presence of significant OOP payment differences between cognitive frail participants and other groups of elderly participants. No statistically significant difference was noticed in the total OOP payments between all groups (Sig = 0.085)

The mean total OOP payments for seeking of care among elderly Malaysians was RM 155.9 every six months. It was noticed that RM 34, RM 14, RM 59, RM 36, RM 26, RM 80, were the mean OOP spending for transport fare, meals, medication charges, Chinese medicine, traditional medicine, and special food treatments, respectively, for elderly Malaysians whom sought health care services during past six months. The mean OOP payment of six months care for elderly Malaysian with cognitive frailty was around RM 84 (SD = 96.0). One way Anova test was conducted to examine the presence of significant differences between cognitive frail participants and other groups of elderly participants in the payments at different items. No significant difference was noticed in the OOP payments for transport fare, meals, drug charges, clinic charges, traditional medicine, special food, and total OOP payments for seeking care during the past six months among cognitive frail, other frailty types, pre-frail, and not frail participants of the study, (F = 0.409, P value = 0.746; F = 2.161, P value = 0.091; F = 0.279, P value = 0.840; F = 1.186, P value = 0.314; F = 0.516, P value = 0.672; F = 0.546, P value = 0.651; F = 1.026, P value = 0.381), respectively. A significant difference was noticed only in the OOP payment for Chinese medicine among the study participants, (F = 5.062, P value = 0.002). Post Hoc - Bonferroni test has revealed a statistically significant difference in the OOP payment of Chinese medicine between not frail, cognitive frail, and pre-frail participants only. Not frail were using Chinese medicine more than both cognitive frail and pre-frail participants (Sig.=0.022, and Sig.=0.009), respectively.

Figure 3 shows the type and percentage of spending of the study participants out of their pockets for seeking health care during the past six months. As shown in Fig. 3, the biggest payment driver components of care for elderly patients are special food cost (37.0%) and clinic charges (31.1%).

## Discussion

Cognitive frailty is an age related syndromes, it is gaining more interest among health care professionals because of its potential for disability and poor quality of life. This study was conducted among elderly Malaysian citizens aged 60 years old or above, whom have no physical disability, not terminally ill, have no psychiatric problem, and have no history of alcohol or drugs abuse. The study was designed to assess the patient's perspective of payments for seeking of care (OOP payments). The prevalence of cognitive frailty was 4.5%, this finding was consistent with the Italian study conducted by Roppolo, Mulasso [16], while it was much higher than that found in the Singaporean study conducted by Feng, Nyunt [6] and the Japanese study conducted by Shimada, Makizako [17]. Additionally it was much lower than that observed in the British study conducted by Montero-Odasso, Barnes [18] which found cognitive frailty prevalence 10.7%. This variation can be due to using different cognitive frailty measurement tools by different studies and different socio-demographic characteristics of study participants in different studies. Around 82% of cognitive frail elderly reported utilizing outpatient care facilities during last six months, this was consistent with findings of García-Nogueras, Aranda-Reneo [19] and Fairhall, Sherrington [20] studies on frailty, while the number of visits to health care facilities in both studies was much higher than that observed in Malaysia.

The observed hospitalization rate (for all frailty types) in this study was much lower than that for several studies [19–28]. This finding reveals that elderly Malaysians are probably healthier than elderly in other countries. Additionally, it can be also considered as a reflection of current differences in the health care systems in these countries.

According to Chang, Cowling [29], the global average out of pocket spending for seeking of health during the year 2016 was USD 200.3 per year. For Malaysia, the annual average out of pocket spending per total health was USD 147.3 in the same year [29]. This average has slightly decreased to USD 128 in the year 2017 [30]. Additionally, the global average out of pocket spending for seeking of health care is expected to reach USD 317 in the year 2050, while for upper middle income countries, it is expected to reach USD 425 per year [29]. Malaysia is classified as an upper middle income country [31].

The current study shows that elderly Malaysians are spending around USD 76 per year for seeking of care (Exchange rate of one USD equals RM 4.1), while elderly Malaysians with cognitive frailty are spending around half of that average (USD 41 per year) for seeking of care. It is noticeable that elderly cognitive frail patients OOP payments for seeking of care equals around one third of the national Malaysian average, while OOP payments equals around half the national level for all elderly participant of the current study. Within Malaysian, few studies focused on assessing health care cost among elderly people. These studies were focusing on provider's perspective of cost of dementia and mild cognitive impairment [15, 32]. One Malaysian study assessed the OOP payments for seeking of care among elderly Malaysians conducted by Koris, Nor [33]; the study reported that the total annual OOP health expenditure among normal elderly Malaysians was RM 365 and RM 351 for mild cognitive impairment patients. Findings of our study is consistent with Koris, Nor [33] study. It is well known that cognitive frailty is an age related syndrome [10]. Additionally, advanced aging is associated with more co-morbidities. So, co-morbidities are more common among cognitive frail elderly compared to healthy elderly [34]. Additionally, co-morbidities are associated with higher health care cost and OOP payments [35–38]. The current findings of low OOP payments of the elderly cognitive frail Malaysians supports the premise that they are characterized with good health and well controlled chronic diseases. Another important factor that lowers the OOP payment values for seeking of care among elderly people in Malaysia that they are given highly subsidized care by the government in public health care facilities.

Additional justifications for lower Malaysian OOP spending compared to other countries is the lower Malaysians` health care utilization rates of elderly, lower GDP per capita of Malaysia compared to European countries; both can be considered as reasonable justification for such cost variations. Additionally, Socio-demographics and co-morbidity variations of the participants among different studies, different adopted tests for frailty assessment, and participants` selection methods of the studies can also be another factors that can affect the cost of cognitive frail elderly. Recall bias of the health care utilization and payments data from elderly participants and low prevalence rate of cognitive frailty among Malaysians can be considered as the main limitations of the current study.

## Conclusion

Cognitive frailty is not recognized as a prevalent syndrome among elderly Malaysians compared to other countries. Elderly Malaysians with cognitive frailty are probably expressing good health status and well controlled co-morbidities. The OOP payments for seeking of care among cognitive frail elderly Malaysians is not different from that of not frail, pre-frail, and other types of frailty. Cognitive frailty is not considered as a costly phenomena among elderly Malaysians.

## Abbreviations

### CDR

Clinical Dementia Rating test.

### LRGS TUA

The Malaysian longitudinal community based study (Long Term Research Grant Scheme - Towards Useful Aging).

### OOP

Out-of-pocket.

### RM

Malaysian ringgit.

### UKM

Universiti Kebangsaan Malaysia (The National University of Malaysia).

### USD

United States of America dollars.

## Declarations

## Ethics Approval and Consent to Participate

The study was approved by the research ethics committee at the National University of Malaysia (reference: UKM PPI/111/8/JEP-2019-024), and also approved by the Malaysian National Medical Research and Ethics Committee at the Malaysian ministry of health (reference: KKM/NIHSEC/P19-1689(12)). Written consent for participate was obtained from study participants, the form was approved by the ethics committees.

### Consent to publish

Not applicable

### Availability of data and materials

Supporting data of the study can be accessed through contacting the corresponding author and after approval from the National University of Malaysia – faculty of medicine to take part of the data.

### Competing interests

The authors declare that they have no competing interests.

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## Authors` Contributions

AA conducted the study, the statistical analysis, and the write-up of the manuscript first draft. SA, AI, and AN are supervisors of all steps of the study. SS is the program leader. All authors were involved in developing the study design, obtaining the ethical and managerial approvals, data interpretation and helped also in reviewing the manuscript. All authors read and approved the final version of the manuscript for publication.

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## Figures

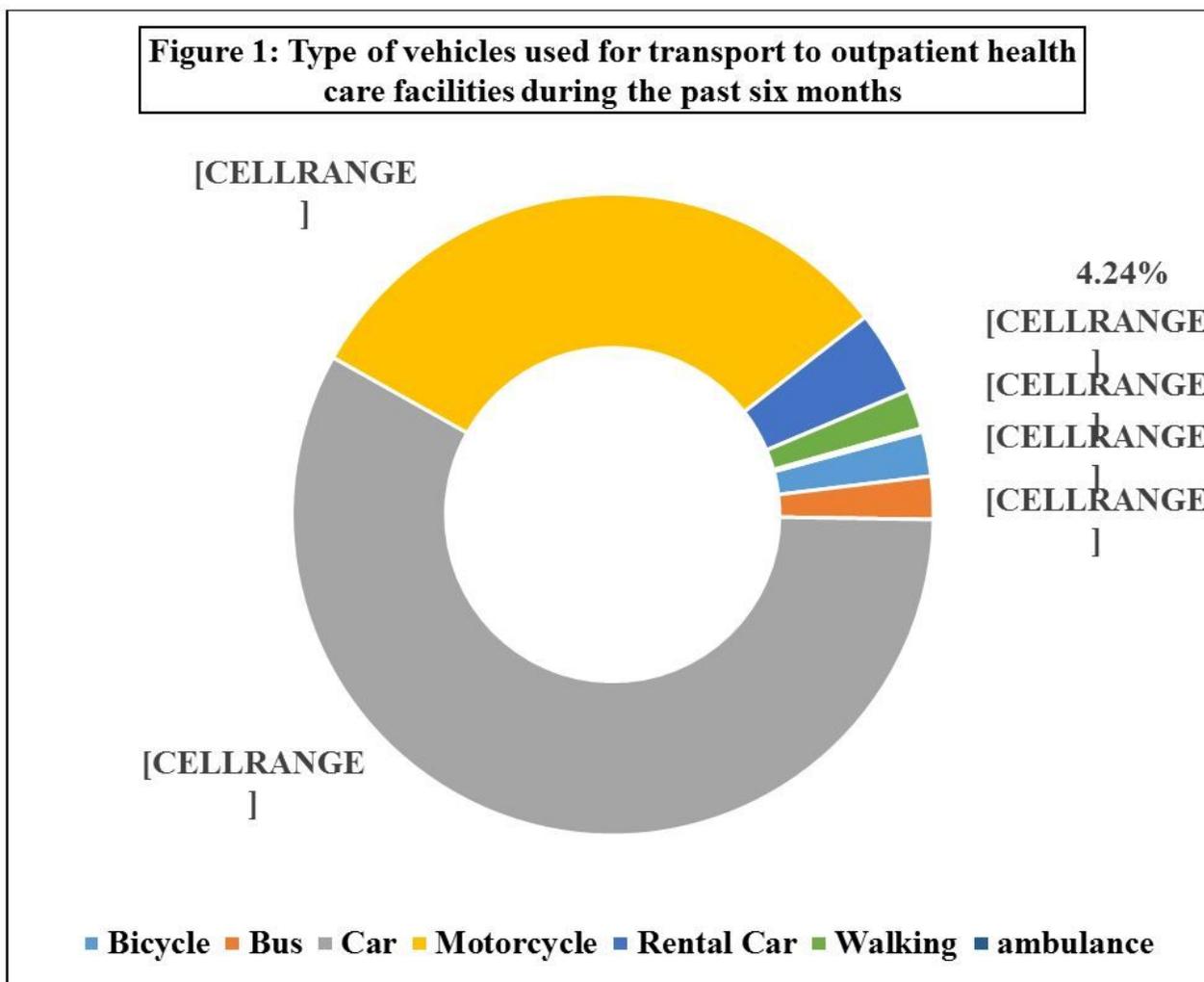


Figure 1

Type of vehicles used for transport to outpatient health care facilities during the past six months.

**Figure 2: Total spending categories out of pocket for seeking of care during past six months**

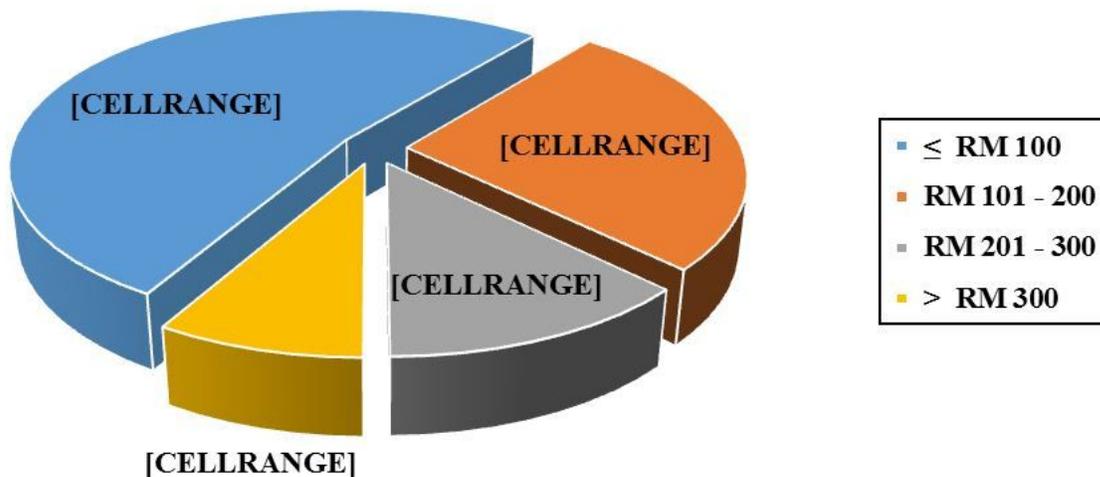


Figure 2

Total spending categories out of pocket for seeking of care during past six months.

**Figure 3 :Type and percent of OOP payments for care during past six months**

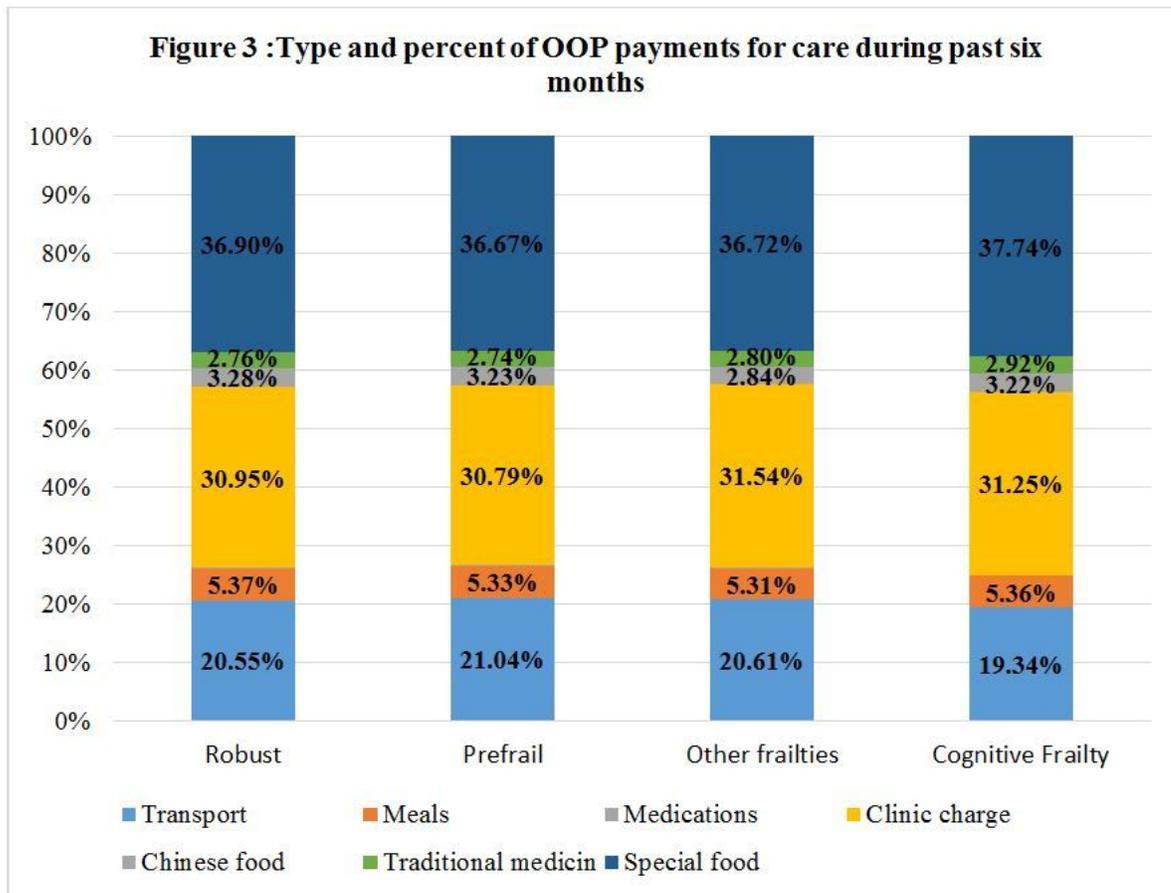


Figure 3

Type and percent of OOP payments for care during past six months.