Unmet health care needs of elderly residing on urban areas of Sunsari District, Nepal. A Cross Sectional Study

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Research article

Keywords: Elderly, Unmet health care needs, Nepal

Posted Date: December 13th, 2019

DOI: <https://doi.org/10.21203/rs.2.18815/v1>

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Abstract

Background : Global ageing population is in increasing trend. Morbidity increases with age and enhances the burden of health problems that results in new challenges to meet the additional demands. There can be various types of issues such as health problems, health care utilization, physical and social care which should be carefully assessed and addressed.

Objective : This study aimed to assess the unmet health care needs among elderly.

Methodology : A Community based, House to House, Cross sectional study was conducted in urban areas of Sunsari district using face to face interview. Sample size of 530 elderly were selected by Systematic proportionate random sampling technique.

Results : This study unfurled the prevalence of unmet need for consultation for Near vision 52.3%, Far vision 53.7%, Hearing 79.7%, Dental 79.4%, Hypertension 6.7%, Diabetes 3.9%, CVD 5.3 %, and of at least one Unmet Health care need to be 64.9%. At least one unmet health need was significantly associated with higher odds among elderly of age more than 70, of dalit and janajati ethnicity, illiterate, poor, those with difficulty leaving home, distance of health facility > 30 mins, and those with depressive symptoms.

Conclusion : The study highlighted higher prevalence and associated factors related to unmet health care needs among elderly. There is an urgent need to promote geriatric health services and make it available at the primary health care level.

Introduction

Ageing is universal and inevitable biological process that renders physical, psychological, and social transformation.(1) At the biological level accumulation of a wide variety of molecular and cellular damage over time results in ageing.(2) Morbidity increases with age resulting in new challenges to meet the additional demands thus enhancing the burden of health problems.(3) The life transitions such as retirement, relocation to more appropriate housing, and the death of friends and partners is also associated with ageing beyond biological change.(4)

Elderly population comprises of 12% of the global population. Nepal is also witnessing an increasingly ageing population with its ageing population 8.1% in 2011. Life expectancy has increased from 41 years in 1971 to 68 years in 2012 and the growth rate of ageing population is around 3.5% and is in increasing trend while total population growth rate of Nepal is 1.4% and is declining.(5) The Global Age Watch Index (GAWI) of Help age International 2015 proclaimed Switzerland as the most suitable country for the old where Nepal ranks 70 among 96 in the index.(6) WHO defines Healthy Ageing "as the process of developing and maintaining the functional ability that enables wellbeing in older age". (7) Different studies done globally have explored the existence of inequalities in health services and perceived unmet needs for healthcare in the elderly population due to various reasons. (8–11)

The increasing aging population and the sustained shift in population age structure poses an array of challenges to overall health services and policy makers to combat with different morbidity patterns among elderly residing in Nepal.(12,13)Also to fulfil the pledge of the 2030 agenda for sustainable development that "no one will be left behind" it is essential to prepare for the economic and social shifts associated with an ageing population with implications from all sectors of society.(14) Unmet health care needs can be defined as the difference between the health care services deemed necessary to deal with a health problem and the actual services received.(8) The problems that are not being addressed by the existing service delivery system can be highlighted by assessment of unmet needs, also it considers both health status and the receipt of assistance.(15) Through assessment of the factors that influence health care utilization and unmet needs of the elderly prevalent in society it will be helpful to inform the policy as the social protection is limited and many of the needs of elderly are unmet with a lack of sensitivity and awareness regarding the rights and protection of the elderly.(5)

Objectives

4.1 Primary Objective:

- To assess the unmet health care needs among elderly residing in urban areas (Itahari and Dharan) of Sunsari district.

Materials And Method

This was a Community Based Cross Sectional Study within a period of one year from September 2017 to August 2018 in selected areas of Itahari and Dharan. People of Age 60 years and above willing to participate in the study were included in the study and those with diagnosed mental health problems under medication, severely ill who needed emergency care were excluded from the study. Sample Size was calculated at 95% confidence interval and 85% power taking the prevalence of unmet health care needs in people suffering with hypertension from study done in Bhaktapur District was 26.2%.(3) The total calculated sample size was 530.

Systematic proportionate random sampling was done to obtain the representative sample. The proportion was based on total population of metropolitan and population in each selected ward. Wards were selected randomly using lottery method. Selected ward was visited and bottle was rotated at the middle junction and first household was chosen in the direction that bottle pointed. Then every 3rd house was taken for the study until the desired sample size was fulfilled. In case sample criteria, didn't meet in the selected household the adjacent household with sample criteria was taken for the data collection.

Semi-structured pre-tested Questionnaire were used to gather information regarding demographics and other variables. Participants reporting a chronic disease were asked to identify their problem(s) in a list of 5 chronic diseases used by package for Essential Non-communicable diseases Nepal.(16) Physical and sensory functional limitations were dealt with the ability to see newspaper print clearly, the ability to see the face of someone 4m away clearly, the ability

to hear distinctly what is said in a conversation with one other person and the ability to chew hard foods without difficulty. The evaluation of activity restrictions examined the five activities of daily living (ADL) included in the Katz index, i.e. bathing, dressing, toileting, transferring, continence and feeding. Homebound status was defined as incapacity to leave the home without help.(8) Unmet health care needs are defined as situations in which a participant needed health care but did not receive it. Two questions were used, the first question evaluating the need of care and the second question dealing with the use of health care resources.(8) Depressive symptoms were evaluated using Beck Depression Inventory 2nd edition (BDI-II). The BDI-II scale is validated for use in Nepal and the translated Nepali version was used.(17) In non-clinical populations, scores above 20 indicate depression, the Cronbach's Alpha based on standardized items when tested for all the 21 items on BDI-II scale has shown a good consistency of 0.76. (18)

Ethical Clearance was obtained from institutional review committee. (Code No. IRC/1163/017) The permission to conduct study in respective areas were obtained from municipality office.

5.9 Data Management and Statistical analysis

Statistical analysis was done using Statistical package for social sciences. For Descriptive analysis is presented in frequency, percentage and bi-variate analysis was done using appropriate test of significance (chi-square test). Multivariate binary logistic regression was then further done to find the adjusted odds ratio for the determinants. Statistical significance is tested with 95% confidence interval and p value less than 0.05 is considered significant.

5.11 Operational Definitions:

The term **elderly** has been used as a Senior citizen where "Senior Citizen" means a citizen of Nepal having completed the age of Sixty years.(19)

Common Health problems were sensory functional limitations (Near vision, Far vision, Hearing and Chewing).(8)

Common presenting symptoms symptoms in elderly were inquired by asking if they have any problems from a list of common presenting symptoms in elderly obtained by study in Chandigarh.(20)

Depressive symptoms was referred to as scores above 20 in BDI-II.(18)

Ethnicity was categorized as per HMIS classification of ethnicity, which was based on Central Bureau of Statistics Population Monograph of Nepal.(21)

Poverty line: In October 2015, the new World Bank global poverty line was revised to US\$1.90 per day as per 2011 Purchasing Power Parity obtained from International Comparison Program(IPC). Exchange rates used is the one fixed by Nepal Rastra Bank at the time of analysis on 1st October 2018 USD 1\$ = 115 NRs. (22–24)

Per capita income was considered the income of a person annually which was generated by dividing family income annually divided by number of family members.

Social activity were evaluated by the type of activity, frequency of activity per week, and time spent on each activity that they were involved in.(25)

Results

6.1 Socio-demographic characteristics

This study constituted 50.9% males and 49.1% females. The mean age of the participant in this study was 72.2 years with a standard deviation of 8.1 and age ranging from 60 years to 101 years. Majority of participant (41.1%) belonged to the age group 60-69 years, Brahmin/Chhetri ethnicity (45.6%), Hindu (85.7%) by religion. In the study participants 63.8% were currently married, (47.4%) were living in pukka house, 2.6% of elderly were living alone. More than half (56.0%) participants were below poverty line and 20.4% of the participants had per capita income less than NRs 43,200 (USD - 375\$). Most of the participants (67.7%) had no any schooling, and regarding work status majority (49.2%) were not working. (Table 1)

Felt needs and unmet health care needs for common health problems

The felt need for common health problem was highest for those with difficulty in near vision out of which 52.3% have not consulted and 55.1% of those who consulted didn't get required treatment. Similarly, higher proportion of unmet need for consultation with felt need (79.7%) and unmet need for treatment in those who consulted (90.6%) was seen in those complaining hearing impairment. In common health symptoms majority (58.1%) complained of pain and swelling of joint and unmet need for consultation was higher among those with Giddiness and fainting (56.6%). In chronic illnesses 34% reported to have hypertension which was highest. (Table 2) This study found the prevalence of at least one unmet health care need to be 64.9% among elderly population. (Table 3)

The higher proportion of participant with at least one unmet health care need was seen among the age group of 80 years and above (76.7%), female gender (69.2%), Dalit ethnicity (86.8%), Hindu by religion (66.7%), currently single (71.4%), illiterate (74.9%), lowest per capita income (78.7%), those below poverty line (75.1%), those living alone (76.5%), complaining of difficulty doing daily activities (87.3%) and difficulty leaving home without help (88.4%), not involved in social activity (68.8%), with poor self reported health status (82.8%), who choose to visit nowhere for their health problem (85.2%), stating more than 30

minutes time to reach hospital (68.4%), use of health facility more than a year ago (73.9%), with no health insurance (67.1%), not satisfied with health care services (74.7%), no knowledge about health policies regarding elderly (71.5%) and depressive symptoms (77.2%). (Table 4)

In binary logistic regression analysis the participants of age group 80 years, dalit by ethnicity, illiterate, those with lesser income, those complaining of difficulty leaving home without help, those going nowhere taking home remedy, those reporting more than 30 minutes time to reach health facility and those with depressive symptoms were found at higher odds of having unmet health care needs with significant association. The participants visiting their respective welfare camps for their illness were seen to be protective with odds of 0.138. (Table 5)

Discussion

Elderly are the dependent population of the country and taking care of them is the responsibility of country as well as their children but developing countries like our's, lack an effective way to cope with such problems of elderly. We should explore the resources to make it easier and compatible for fulfillment of needs of elderly population.

Prevalence of Unmet Health Care Needs

Unmet health care need was reported by 64.9% and prevalence increased with age, reaching 76.7% in people of age 80 years and older. Similar to this in a study done in French elderly the prevalence increased with increasing age and unmet health care needs were reported by 23.0% of the study population and prevalence increased with age, reaching 46.1% in people aged 95 and older.(8)

There was a marked differences in findings of similar study done in another city of Nepal regarding the proportion of unmet health care needs for different health needs and it may be due to the study location, study design and also our study constituted almost double sample size. (3) Also our country Nepal is a home of cultural diversity so there can be difference in the way population act and take responsibilities about their health.

The prevalence of unmet need was more in our study compared to study in French elderly which reported 23% have at least one unmet health care needs but similar in a way that study also reported unmet needs for visual impairment, hearing care and dental care to be 44.2%, 88.0% and 76.4% respectively.(8) In our study 1.9% (3/158) of those with hearing problem were found using hearing aid similar to the study which reported use of hearing aids was very low—only 1.47% (6/257) of the hearing impaired were using a hearing aid. (26)

Predictors of Unmet health care needs

Similar to our study French study revealed age, regular homebound status, tobacco smoking, A poor economic situation, a low level of former employment, limitations in IADL and depressive status as the risk of having unmet health care needs. (8)

Similar to our study in a study done in Serbia the probability for those least reporting unmet health care needs included those with higher education and who belong to the richest quintile but differ in work status as unemployed were seen protective and unemployed elderly in our study were seen with higher odds of having unmet health care needs.(11)

Conclusion

The Unmet health care Needs of Elderly is faced by more than 3/5th of the participant. Continuous intervention program focusing healthy ageing should be conducted to motivate people for health care utilization. Geriatric counselling Centre should be commenced and health care utilization should be exercised by whole community with active participation in betterment of health. The health policies should priorities the vulnerable. Health service should be made available at primary level with geriatric specialized one door policy with subsidization.

Limitations

- Population proportionate sample size was taken due to the unavailability of elderly population in each ward and higher number of total population doesn't confirm the higher number of ageing population.
- The common presenting symptoms was taken as felt needs by the participants which couldn't be confirmed as there could be exaggeration of symptoms.
- Mental health self-reports are sometimes subject to bias because of a general community stigma towards mental illness in Nepal.(27)

Declarations

- **Ethical approval and consent for participation** was obtained from Institutional review committee (IRC) of B.P Koirala Institute of Health Sciences. Consent was taken from every participant before their participation and the motive of the study was clearly stated.
- **Consent for publication:** There is no any personal identification or information in this study.
- **Data Availability:** Data used in generating result of this study can be made available from author whenever needed on request.
- **Competing Interest:** The authors declare that they have no competing interest for this study.
- **Funding:** There is no any source of funding and the expenses of study was carried out by author.
- **Authors Contribution:** Every author has contributed in the study. Dr Mukesh Poudel and Mrs Asmita Ojha were involved from proposal writing, data collection to data analysis, result generation and writing of manuscript. Professor Dr Anup Ghimire, Dr Deepak Kumar Yadav, Dr Ram Bilakshan Sah and

Mr Avaniendra Chakravarty were involved in supervising and edition of the article and helped in every step from proposal writing, obtaining ethical approval to fulfillment of this research.

- **Acknowledgement:** This article is a result of great deal of support and motivation. It is a pleasure to thank who made this research article possible with their continuous help, guidance, cooperation and encouragement, providing me with everything I needed. I would like to express my deepest gratitude to my supervisors and friends for their guidance and support. I am Indebted to participants of this study for providing me their valuable time, information, help and cooperation.

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Tables

Table 1 Socio-demographic factors of participants (n=530)

Characteristic	Categories	Frequency (n)	Percent (%)
Age Distribution	60-69 years	218	41.4
	70-79 years	209	39.4
	>80 years	103	19.4
Gender	Male	270	50.9
	Female	260	49.1
Ethnicity	Dalit	53	10.0
	Janajati	224	42.3
	Madhesi/ Muslim	11	2.1
	Brahmin/Chettri	242	45.6
Religion	Hindu	454	85.7
	Others	76	14.3
Marital Status	Never Married	3	0.6
	Currently Married	338	63.8
	Seperated	2	0.4
	Divorced	2	0.4
	widowed	185	34.9
Type of house	Kachha	105	19.8
	Semi Pukka	174	32.8
	Pukka	251	47.4
Living Arrangement	With Son	406	76.6
	With Daughter	55	10.4
	Couple Only	52	9.8
	Alone	14	2.6
	Others	3	0.6
Per capita Income in NRs Thousasnd	< 43.2	108	20.4
	43.2 - 60	122	23.0
	60- 80	80	15.1
	80 - 96	119	22.5
	> 96	101	19.1
Economic status	Below Poverty Line	297	56.0
	Above Poverty line	233	44.0
Level of education	No Schooling	359	67.7
	Below primary	54	10.2
	Primary	54	10.2
	Secondary	32	6.0
	SLC and higher	31	5.8
	Paid Employee	22	4.2
Work Status	Agriculture	45	8.5
	Business	47	8.9
	Homemaker	110	20.8
	Retired	43	8.1
	None	263	49.6

Figure Legend: This table shows the different Social, Demographic and Economic characteristics of participant

Table 2: Unmet health care needs for different illness (n=530)

Common health problem	Felt need	Sought Consultation	Unmet needs for consultation	Taking treatment who consulted	Unmet needs for treatment
Near vision	308(58.2%)	147(47.7%)	161(52.3%)	66(44.9%)	81(55.1%)
Far Vision	272(51.3%)	126(46.3%)	146(53.7%)	54(42.9%)	72(57.1%)
Hearing	158(29.9%)	32(20.3%)	126(79.7%)	3(9.4%)	29(90.6%)
Dental	282(53.2%)	58(20.6%)	224(79.4%)	39(67.2%)	19(32.8%)
Common health symptoms					
Pain and swelling of joint	308(58.1%)	166(53.9%)	142(46.1%)	120(72.3%)	46(27.7%)
Limitation of movement	45(8.5%)	27(60.0%)	18(40%)	20(74.1%)	7(25.9%)
Indigestion /HeartBurn	122(23.0%)	61(50%)	61(50%)	50(82%)	11(28%)
Backache	139(26.2%)	66(47.5%)	73(52.5%)	53(80.3%)	13(19.7%)
Excessive tiredness	42(7.9%)	20(47.6%)	22(52.4%)	18(90%)	2(10%)
Breathlessness	74(14.0%)	45(60.8%)	29(39.2%)	35(77.8%)	10(22.2%)
Headache	82(15.5%)	38(46.3%)	44(53.7%)	26(68.4%)	12(31.6%)
Cough	54(10.2%)	28(51.9%)	26(48.1%)	26(92.9%)	2(7.1%)
Giddiness/ Fainting	106(20.0%)	46(43.4%)	60(56.6%)	30(65.2%)	16(34.8%)
Urgency for micturation	84(15.8%)	53(63.1%)	31(36.9%)	45(84.9%)	8(15.1%)
Pain/Difficulty in urination	70(13.2%)	41(58.6%)	29(41.4%)	30(73.2%)	11(26.8%)
Change in Bowel Habit	68(12.8%)	40(58.8%)	28(41.2%)	35(87.5%)	5(12.5%)
Itching of skin	83(15.7%)	38(45.8%)	45(54.2%)	29(76.3%)	9(23.7%)
Chest Pain	30(5.7%)	19(63.3%)	11(36.7%)	13(68.4%)	6(31.6%)
Swelling of limbs	39(7.4%)	26(66.7%)	13(33.3%)	14(53.8%)	12(46.2%)
Wheezing	8(1.5%)	6(75%)	2(25%)	5(83.3%)	1(16.7%)
Nasal Congestion	5(0.9%)	3(60%)	2(40%)	1(33.3%)	2(66.7%)
Prolapse in female	25(4.7%)	9(36%)	16(64%)	2(22.2%)	7(81.8%)
Others	30(5.7%)	18(60.0%)	12(40.0%)	10(33.3%)	8(66.7%)
Chronic illness	Felt needs	Taking treatment	Unmet need for management		
Hypertension	180(34.0%)	167 (92.8%)	12(6.7%)		
Diabetes	76(14.3%)	73(96.1%)	3(3.9%)		
Cardiovascular Disease	57(10.8%)	54(94.7%)	3(5.3%)		
COPD/Asthma	52 (9.8%)	3(5.3%)	0(0.00%)		
Cancer	4(0.8%)	4(100%)	0(0.00%)		

Figure Legend: This table shows different common health problems, self reported chronic illness among the participants their felt needs, unmet need for consultation and treatment.

Table 3 Prevalence of unmet health care needs

Types of Unmet Need	Number of Subjects	Prevalence in whole sample	Prevalence in specific Needs
Lack of management of Hypertension	12	2.3%	6.7%
Lack of management of Diabetes	3	0.6%	3.9%
Lack Of management of CVD	2	0.38%	6.67%
Lack of management of Near Vision	161	30.4%	52.3%
Lack of management of Far Vision	146	27.5%	53.7%
Lack of management of ENT	126	23.8%	79.7%
Lack of management of Dental	224	42.3%	79.4%
At least one unmet health care need	344	64.9%	—

Figure Legend: This table shows the prevalence of unmet health care needs for different participants in whole sample as well as in those with specific needs

Table 4 : Association of unmet health need with Study variables (n=530)

Characteristic	Category	Total	Unmet need for health		p value
			Yes n (%)	No n (%)	
Age	60-69 years	218(41.1%)	114(52.3%)	104(47.7%)	<0.001
	70-79 years	209(39.4%)	151(72.2%)	58(27.8%)	
	≥80 years	103(19.4%)	79(76.7%)	24(23.3%)	
Gender	Male	270(50.9%)	164(60.7%)	106(39.3%)	0.041
	Female	260(49.1%)	180(69.2%)	80(30.8%)	
Ethnicity Religion	Dalit	53(10%)	46(86.8%)	7(13.2%)	0.002
	Janajati	235(44.4%)	145(61.7%)	90(38.3%)	
	BrahminChettri	242(45.6%)	153(63.2%)	89(36.8%)	
	Hindu	454(85.7%)	303(66.7%)	151(33.3%)	0.031
	Others	76(14.3%)	41(53.9%)	35(46.1%)	
Marital status	Currently Married	338(63.8%)	207(61.2%)	131(38.8%)	0.019
	Single	192(36.2%)	137(71.4%)	55(28.6%)	
Literacy	Illiterate	359(67.7%)	269(74.9%)	90(25.1%)	<0.001
	Literate	171(32.3%)	75(43.9%)	96(56.1%)	
Per capita income in NRs thousand	<43.2	108(20.4%)	85(78.7%)	23(21.3%)	<0.001
	43.2-60	122(23.0%)	90(73.8%)	32(26.2%)	
	60-80	80(15.1%)	60(75.0%)	20(25.0%)	
	80-96	119(22.5%)	73(61.3%)	46(38.7%)	
	>96	101(19.1%)	36(35.6%)	65(64.4%)	
Poverty Status	Below Poverty	297(56%)	223(75.1%)	74(24.9%)	<0.001
	Above Poverty	233(44%)	121(51.9%)	112(48.1%)	
Living Arrangement Difficulty in daily activities	Living with Son	406(76.6%)	272(67.0%)	134(33.0%)	0.037
	Living with daughter	55(10.4%)	34(61.8%)	21(38.2%)	
	Couple Only	52(9.8%)	25(48.1%)	27(51.9%)	
	Alone	17(3.2%)	13(76.5%)	4(23.5%)	
	Yes	102(19.2%)	89(87.3%)	13(12.7%)	
Difficulty leaving home	No	428(80.8%)	255(59.6%)	173(40.4%)	<0.001
	Yes	69(13.0%)	61(88.4%)	8(11.6%)	
Involvement in social activity	No	461(87.0%)	283(61.4%)	178(38.6%)	<0.001
	Yes	177(33.4%)	101(57.1%)	76(42.9%)	
Self Reported Health Status	No	353(66.6%)	243(68.8%)	110(31.2%)	0.01
	Good	92(17.4%)	43(46.7%)	49(53.3%)	
	Average	275(51.9%)	166(60.4%)	109(39.6%)	
	Poor	163(30.8%)	135(82.8%)	28(17.2%)	
Choice of Health Facility	Hospital	311(58.7%)	197(63.3%)	114(36.7%)	<0.001
	Medical Shop	55(10.4%)	41(74.5%)	14(25.5%)	
	Doctor pvt practice	51(9.6%)	29(56.9%)	22(43.1%)	
	Traditional Healer	33(6.2%)	26(78.8%)	7(21.2%)	
	PHC/Health Post	30(5.7%)	24(80.0%)	6(20.0%)	
	Welfare Camps	23(4.3%)	4(17.4%)	19(82.6%)	
	Nowhere	27(5.1%)	23(85.2%)	4(14.8%)	
	≤ 30 mins	293(55.3%)	174(59.4%)	119(40.6%)	
	> 30 mins	177(33.4%)	121(68.4%)	56(31.6%)	
Duration to reach Health facility	Not Applicable	60(11.3%)	49(81.7%)	11(18.3%)	0.002
	< 1 year	327(61.7%)	194(59.3%)	133(40.7%)	
Last use of Health care facility	> 1 year	203(38.3%)	150(73.9%)	53(26.1%)	0.001
	Yes	80(15.1%)	51(63.7%)	29(36.3%)	
Insurance	No	416(78.5%)	279(67.1%)	137(32.9%)	0.01
	Full Health Coverage	34(6.4%)	14(41.2%)	20(58.8%)	
	Yes	335(63.2%)	196(58.5%)	139(41.5%)	
Satisfaction with health services	No	146(27.5%)	109(74.7%)	37(25.3%)	<0.001
	Not Applicable	49(9.2%)	39(79.6%)	10(20.4%)	
	Yes	256(48.3%)	148(57.8%)	108(42.2%)	
Knowledge about Policies for elderly	No	274(51.7%)	196(71.5%)	78(28.5%)	0.001
	Yes	256(48.3%)	148(57.8%)	108(42.2%)	
OOP expenditure in health	≥ 20%	19(3.6%)	15(78.9%)	4(21.1%)	0.192
	< 20%	511(96.4%)	329(64.4%)	182(35.6%)	
Depressive Symptoms	Yes	302(57%)	233(77.2%)	69(22.8%)	<0.001
	No	228(43%)	111(48.7%)	117(51.3%)	

Figure Legend: This is a table showing association of different studied variables with atleast one unmet health care needs among the studied population

Table 5: Binary logistic regression of different variables with at least one unmet health care need

Characteristic	Categories	β	P	aOR	95% C.I. for aOR	
					Lower	Upper
Age	60-69 years			REF		
	70-79 years	1.032	.000	2.807	1.680	4.688
	≥ 80 years	1.051	.003	2.861	1.445	5.665
Ethnicity	Brahmin/Chettri			REF		
	Dalit	1.305	.010	3.689	1.372	9.921
	Janajati	.967	.002	2.629	1.436	4.813
Education	Literate			REF		
	Illiterate	.894	.001	2.444	1.458	4.097
Per capita income in NRs thousand	> 96			REF		
	< 43.2	1.540	.000	4.666	2.160	10.077
	43.2 - 60	1.125	.001	3.079	1.546	6.134
	60 - 80	1.451	.000	4.266	1.957	9.298
	80 - 96	1.246	.000	3.475	1.809	6.675
Difficulty leaving home without help	No			REF		
	Yes	1.173	.011	3.231	1.306	7.992
Self Reported Health status	Good			REF		
	Average	.622	.045	1.862	1.015	3.417
	Poor	1.029	.009	2.797	1.300	6.020
Choice of health facility	Hospital			REF		
	Medical Shop	1.051	.014	2.859	1.240	6.591
	Doctors private practice	.128	.749	1.137	.519	2.491
	Traditional healer	.906	.110	2.474	.815	7.515
	PHC/Health Posts	1.646	.003	5.186	1.723	15.605
	Welfare camps	-1.982	.005	.138	.035	.548
	Nowhere	2.232	.001	9.315	2.400	36.155
Time to reach health facility	< 30 Minutes			REF		
	> 30 Minutes	.908	.003	2.481	1.369	4.496
Depressive symptoms	No			REF		
	Yes	.635	.010	1.887	1.163	3.060
	Constant	-2.377	.000	.093		

Figure Legend: This is a table showing logistic regression for different variables and the odds ratio are calculated by backward logistic model and were adjusted for variables which seemed to have strong association in cross tab.