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Status and factors affecting the enrollement of health insurance scheme in local residents at selected ward in Pokhara Metropolitan city

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Abstract
Introduction: Health Insurance is an indisputable instrument for healthcare funding. It has been utilized by most developed nations in its different structures to subsidize healthcare. It is just of late being applied by poorer developing countries to attend to the obvious issue of deficient healthcare availability which has over the years been financed from public.
Methods: A cross sectional study was conducted to assess the status and factors associated of enrollment in health insurance scheme from adults of selected ward of Pokhara Metropolitan city. Probability sampling involving cluster and systematic randomization strategy was adopted in this study. Permission was obtained from Institutional Review Committee, Gandaki Medical College and verbal informed consent was taken from respondents prior to data collection.
Results: About 51.2% were enrolled in health insurance scheme, among those only 73.57% had utilized scheme. 28% of participant were non-enrollment due to not aware about the scheme. 21.9% were High payment of premium cost. Enrollment status was statistically significant with chronic illness and face financial trouble.
Conclusions: About 52.1% of families had enrolled in health insurance scheme. Among enrollment 73.57% were utilization the scheme. Health personal/ Friends/ family members and insurance service providers played an important role in dissemination of information. Multiple factors were found to be associated with the enrollement of the health insurance scheme which includes presence of chronic illness, face financial problem and mode of Enrollement.

Keywords: Enrollment, health insurance, utilization

Introduction
Health Insurance is an indisputable instrument for healthcare funding. It has been utilized by most developed nations in its different structures to subsidize healthcare. It is just of late being applied by poorer developing countries to attend to the obvious issue of deficient healthcare availability which has over the years been financed from public [1] .Approximately 150 million people suffer from financial burden each year due to health care payments, and about 100 million are pushed into poverty [2]. In America The percentage of people with health insurance coverage for all or part of 2020 was 91.4 [4]. In many developing countries, out-of-pocket health expenditure of patients or their families constitute a large proportion of amount spent on healthcare. This proportion has been estimated to be the highest ie, 40.8% in the World Health Organization (WHO) South East Asia Region [4]. The total health care expenditure in India accounts for a 6% to Gross Domestic Product (GDP) of which 66.9% of its composition consists of Out-of-Pocket (OOP) payments according to the World Health Organization (WHO) report [5]. In Nepal, household out-of-pocket health expenditure alone contributes to 56.3% of current health expenditure [6].

In order to ensure universal coverage, the government of Nepal adopted the National Health Insurance Policy in 2013. The policy aims to ensure equitable and universal access for all Nepalese citizens to necessary quality health services [7]. Consequently in 2016, a National Health Insurance Program (NHIP) was introduced in the country beginning its operation at 3 districts (Kailali, Ilam, and Baglung). By the mid of 2017, the program was operational in fifteen districts with gradual expansion to other districts in a phased manner. Recent data in Nepal shows that the enrollment status in the national health insurance is only 8% in 2019 among the total population of 26,494,504. Increasing non-enrollment may lead to failure of the program and there might be several factors associated with it [8].

Out of pocket payments along with the lack of access to health care services, disease shift from communicable to non-communicable disease puts the vulnerable population at health risk [9]. Only 2/3rd of population have easy access to health care facilities with 59% in rural setting and 86% in urban setting [10]. Social health insurance is playing a crucial role in addressing the burden of sickness funds and helped to establish link between social stratification and insurance status[6]. According to Health Insurance Board, Gandaki Province Office, enrollment in January 2020 was only 20% of the total population of the district [8].

Materials and Methods

A cross sectional study was conducted to assess the factors associated of enrollment and utilization of health insurance scheme from adults of selected ward of Pokhara Metropolitan city. The sample size for the study was calculated using formula z2 pq/l2 (taking p as 42.5% reference from a study of Karnataka, India [9] and as allowable error 7%), which accounts to be 375 . Probability sampling involving cluster and systematic randomization strategy was adopted in this study. Before embarking on study, on site feasibility study was done and meetings was held with local authority and other potential stakeholders/ agencies. Seventeen wards (cluster) were selected randomly from local administrative authority to ensure more than 50% coverage (Total=33 wards). Total number of households from each ward was collected from local administrative authority. Households were determined applying systematic random sampling method. Primarily community resting places (raised platform) locally known as 'Chautara' was chosen as a 'start point', however, other landmarks like intersections, community temples or shrines were used depending on feasibility. From start point, every K^{th} was included for the study.

Sampling interval (K^{th}) = Total number of household/Total no. of cluster
= 105630/17
=6213.5= 6314

Number of sample size from each cluster= Total sample size/ No. of cluster
=375/17 =22.05 =23

Logical sequence of questionnaire was maintained and checked for content validity. The questionnaire is organized into 3 parts: Part I: Questions related to socio-demographic Part II: Questions related to enrollement status Part III: Question related to factors affected to enrollment status. As per the suggestion of the subject experts and literature review, necessary modifications were made in the tool. Pretesting was done on 10% of the study population in Pokhara -16 and Crohnbach alpha was calculated to checked the reliability of the tool which was found to be 0.75. The data of the pretesting was excluded from the main study. The data was collected by door-to-door survey via face-to-face interview using a semistructured questionnaire. Individual of age ≥20 years and were willing to participate in the study were included. The households that were locked and where the age criteria were not fulfilled were excluded.

Permission to conduct the study was obtained from Institutional Review Committee, Gandaki Medical College Nepal. Verbal informed consent was taken from the respondents prior to data collection. Confidentiality and anonymity was maintained by removing personal identifiers and not disclosing information to anyone except for research purpose. Respondents dignity was maintained by giving right to discontinue from the study at any time. After collecting, the data was checked for completeness and accuracy analyzed by SPSS (statistical package for social sciences) version 18. The data was presented in mean, frequency distribution, standard deviation and inferential statistical method such as chi-square and regression analysis test.

Result

Table 1: Socio- demographic Characteristic of Respondents N=375

Variables	Frequency	Percentage
Age (In years)		
20-54	191	50.9
> 54	184	49.1
Mean ±SD 54.21±14.16		
Sex		
Male	288	76.6
Female	87	22.9
Educational Level		
No Formal education	71	18.9
Primary	120	31.9
Secondary	97	25.8
Higher secondary and above	66	17.6
Marital Status		
Married	296	78.7
Unmarried	75	19.9
Divorced/Separated/Widow	4	1.1
Occupation		
Unemployed	65	17.1
Housewife	19	5.
Business	52	8.65
Service	125	33.2
Agriculture	53	9
Abroad	38	10.1
Ethnicity		
Dalit	83	22.1
Disadvantage Janajati	66	17.6
Non dalit terai	42	11.2
Religious minorities	43	11.4
Advantage Janajati	18	4.8
Upper caste	124	33.1

Table 1 reveals that mean age of the respondents was 54.21 and 50.9% of the respondents were 20-54 years. Regarding sex 76.6% were male and 22.9% were female. Regarding education 31.9% had primary education., likewise 33.2% involve in service and 5.1% were housewife. Regarding marital status 78.7% were married and 19.9% were Unmarried. Regarding occupation unemployment were 17.1%, about one third 33.2% were service holder. Regarding ethnicity 22.1% were Dalit, about one third 33.1% were Upper caste.

Table 2: Other related variables Characteristic of Respondents (N=375)

Variables	Frequency	Percentage
Household Size		
<5	288	76.6
> 5	88	23.4
Past Illness		
Yes	180	47.9
No	196	52.1
Presence of Chronic Illness		
Yes	199	52.9
No	177	47.1
Face Financial Problem		
Yes	211	56.1
No	165	44
Health Status of the family		
Good	168	44.7
Average	183	48.7
Poor	25	6.7
Know hospital or clinic which Operate NHIS		
Yes	217	57.7
No	159	42.5
How to obtain knowledge about Insurance		
Health Personnel	102	28.2
Hoarding Board	45	13
Relatives	61	16.2
Neighbours	114	30.3
Others	57	15.3
Mode of Enrollement		
Easy	205	54.4
Difficult	170	45.6
Access to health facility		
Up to 30 minute	182	49.6
31 to 60 minute	191	51.4

Table 2 shows that regarding household size 76.6% had less than 5 members. More than half 52.9% family had chronic illness. Nearly 56.1% face financial problem and 48.7% health status is average. More than half 57.7% know hospital or clinic which operate NHIS and 28.3% obtain knowledge about insurance from neighbours. More than half 51.4% had access to health facility upto 30 minutes.

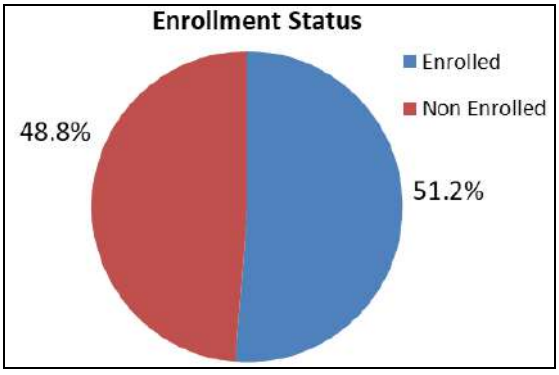

Fig 1: Enrollement of the scheme (N=375)

Figure 1 reveals that more than half 51.2% utilized social health insurance scheme and 48.8% did not utilize health insurance scheme.

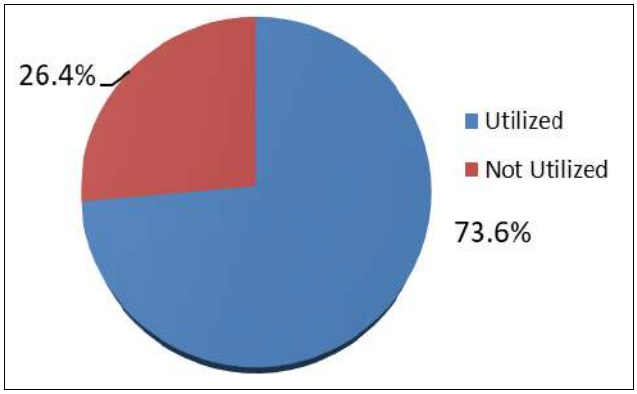

Fig 2: Utilization of the services (n=193)

Figure 2 reveals that 73.6% utilize the social health insurance scheme and 26.4% did not utilize the social health insurance scheme.

Table 3: Reasons of Non- enrollment of Membership (n=182)

Reasons of Non-enrollment	Frequency	Percentage
Not aware about scheme	51	28
High premium cost	40	21.9
Due to covid	37	20.3
Difficult to obtain	18	9.8
Bad compliments about the scheme	18	9.8
Distance to health facility	16	8.7
Enrolled in other scheme	12	6.5
Mistrust to government	9	4.9
Mostly healthy and no need to be enrolled	9	4.9

Table 3 shows the reason for non-enrollment of social health insurance scheme. It shows that 28% are not aware of he scheme and 4.9% were mostly healthy and feel no need to be enrolled.

Table 4: Reasons of Discontinuation of Membership (n=51)

Reasons of Discontinuation of Membership	Frequency	Percentage
Long waiting time	16	31.3
Due to covid	14	27.4
Not adequate medicines	9	17.6
No good health services	7	14.7
Others (tedious, unequal behavior)	6	10.6

Table 4 shows the reason for discontinuation of social health insurance scheme. It shows that 31.3% discontinue the membership due to long waiting time and 10.6% discontinue the service due to unequal behavior and tedious.

Table 5: Association of Enrollement Status with Socio-Demographic Characteristics (n=375)

Variables	Enrollment		P-value	Chi-square
	Yes No. (%)	No No. (%)		
Age				
20-54	93(48.2%)	98(53.8%)	0.273	1.20.
>55	100(51.8%)	84(46.2%)		
Gender				
Male	146(75.6%)	142(78.0%)	0.47	
Female	47(24.4%)	39(21.4%)		1.478
Religion				
Hindu	140(72.5%)	140(76.9%)	0.32	
Non Hindu	53(27.5%)	42(23.1%)		0.521
Education Status				
Illiterate	124(64.2%)	128(70.3%)	0.47	
Literate	69(35.8%)	54(29.7%)		0.521
Ethnicity				
Dalit	48(24.9%)	36(19.85)	0.48	1.432
janajati	85(44.0%)	82.0(46.2%)		
Brahmin/chhetri	60(31.1%)	62(34.1%)		
Marital status				
Married	148(76.7%)	145(81.3%)	0.52	
Others	44(22.3%)	37(17.6%)		1.29
House hold size				
<5	146(75.6%)	142(78.0%)	0.47	1.478
>5	47(24.4%)	39(21.4%)		
Past illness during 6 month				
yes	90(46.6%)	103(53.4%)	0.32	1.32
No	90(49.7%)	91(50.3%)		
Present of chronic illness				
yes	92(47.7%)	101(52.3%)	0.03	4.653
No	107(58.8%)	75(41.2%)		
Mode of enrollement Easy Difficult	104(54.5%) 84(44.0%)	99(54.4%) 80(46.2%)	0.004	0.998
Face finance trouble				
Yes	114(59.1%)	79(40.9%)	0.04	4.801
No	97(53.3%)	84(46.2%)		

P value and bold indicates significance

Table 4 reveals the association between enrollement with socio-demographic characteristics of the respondents. Presence of chronic illness, face financial problem and mode of enrollement of respondents were found to be significantly associated with enrollment (p=0.03), (0.004)(0.04).

Table 6: Association of Enrollement Status with Socio-Demographic Characteristics (n=375)

Variables	Enrollment		P-value	COR	95%CI	
	Yes No. (%)	No No. (%)			Lower	Upper
Age						
22-54	93(48.2%)	99(53.8%)				
>55	100(51.8%)	84(46.2%)	0.295	0.801	0.529	1.213
	17 (35.4)	31 (64.7)				
Gender						
Male	146(75.6%)	142(78.0%)	0.648			
Female	47(24.4%)	39(21.4%)		0.892	0.547	1.455
Religion						
Hindu	140(72.5%)	140(76.9%)	0.265			
Non Hindu	53(27.5%)	42(23.1%)		0.760	0.492	1.172
Education Status						
Illiterate	124(64.2%)	128(70.3%)	0.21			
Literate	69(35.8%)	54(29.7%)		0.760	0.923	1.640
Ethnicity						
Dalit	48(24.9%)	36(19.85%)				
Janajati	85(44.0%)	82(46.2%)	0.14	1.060	.879	1.531
Brahmin/chhetri	60(31.1%)	62(34.1%)				
Marital status						
Married	148(76.7%)	145(81.3%)	0.28			
Others	44(22.3%)	37(17.6%)		0.771	.478	1.242
House hold size						
<5	146(75.6%)	142(78.0%)	0.57			
>5	47(24.4%)	39(21.4%)		0.872	0.541	1.405
Past illness during 6 month						

yes	90(46.6%)	103(53.4%)	0.885			
No	90(49.7%)	91(50.3%)		1.032	.672	1.585
Presence of chronic illness						
yes	92(47.7%)	101(52.3%)	0.01			
No	107(58.8%)	75(41.2%)		0.597	.389	.918
Mode of enrollment						
Easy	104(54.5%)	99(54.4%)	0.005			
Difficult	84(44.0%)	80(46.2%)		1.005	.685	1.473
Face financial trouble						
Yes	114(59.1%)	79(40.9%)				
No	97(53.3%)	84(46.2%)	0.03	1.011	0.940	2.118

p value < 0.05

Table 4. reveals the association between emrollement status with socio-demographic characteristics of the respondents. Respondents who had presence of chronic illness were 0.5, who had feel easy mode of enrollement were 1 times and face financial problem had 1 times more enrollement the health insurance scheme then other Respondents

Discussion

The current study revealed that about 51.2% were enrolled in health insurance scheme of the government of Nepal this finding was consistent with the study done by E Badu in Ghana (74%) [10], P Rathi in Maharastra (38.42%) [11], G netra in Karnataka (45.5%) [12], and Sudhir in South India (46.9%) [13]. This finding is contractory with the study done by Adedeji from Nigeria (6.7%) [14] and Singh HD in Manipur, India (9.5%)·Despite awareness (34%), the number of households utilizing the service was low and yet not enrolled in it [15].

Present study revealed, Among those who enrolled (52.2%) in health insurance scheme, 73.57% had utilized scheme which finding is consistent with the study done by S Dibya in Pokhara 69.2% [16], YS Kusuma in Delhi 45% [17] and CE ekwuluo in Nigeria 70.1% [18] of the participant have utilize the scheme. The fact behind this may be explained as the individual get enrolled in the service paying certain amount of premium would have encouraged them to utilize the service.

The present study showed that 28% of participant were non-enrollment due to not aware about the scheme. 21.9% were High payment of premium cost. Those populations are not able to pay the premium amount and are deprived of utilizing the necessary health services when they are in need. The finding is contractory with the findings of Adhikari Anju [19], which found that non-enrollment was higher in rich wealth quintile. In present study due to Covid influencing factor of non-enrollment in NHIS. (9.8%). In present study 4.9% were found healthy and no need to be enrolled. Self-perceived health status is an influencing factor of non-enrollment in NHIS. This result is consistent with the finding by P.O. Otieno, in Kenya (aOR 0.62; p<0.05; 95% CI 1.17 to 5.66 [20]. This is obvious that if household members do not have any health problems, they would never prefer to be enrolled until and unless they have severe health problems and may have a thinking that they should no waste money unnecessarily.

The current study showed that there is no statistical significant association between enrollment with Age, Gender, Educational level, Religion, Ethnicity, Occupation, Type of family, Household size, Past illness during 6 month. This finding is similar with the study conducted by S. Dibya in Pokhara [16]. Current finding is contradtory with the Study conducted by Netra *et al.* [12] showed gender, type of family, affordability to pay premium, education, occupation, socio economic class is significantly associated with health insurance scheme. Present study showed there is statiscally significant association between enrollment with chronic illness (p<0.03), face financial trouble (p<0.04) and mode of enrollement. This finding is similar with the study conducted by Ghimire Prabesh in illam,,where number of members with completed secondary education (P<.001), illness experience in family (P< .001), presence of chronic illness (P<.001). to increased enrollment of health insurance scheme [21].

Conclusion

About 52.1% of families had enrolled in health insurance scheme. Among enrollment 73.57% were utilization the scheme. Health personal/ Friends/ family members and insurance service providers played an important role in dissemination of information. Major reasons of non-enrollment in the scheme are, not aware about the scheme, High premium cost and due to covid. Multiple factors were found to be associated with the enrollement of the health insurance scheme which includes presence of chronic illness, face financial problem and mode of enrollement . Individual awareness, enrollment and utilization of scheme are less. So, there is strong necessity to raise awareness level, convincing them to enroll in any type of scheme based on their ability to pay, ensuring proper utilization of health care after getting enrolled.

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