

Development of Interview Items to Screen Patients Who Forgo Health Care for Economic Reasons

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Background

- Japan has a high poverty rate among OECD countries.
- According to a report by the Japan Medical Association, about 11% of patients forgo health care for economic reasons.
- According to a study by Min-Iren, 77 people died in 2018 as a result of forgoing health care due to economic reasons.

- Challenge:
 - Support, by utilizing social resources, for patients who potentially forgo health care for economic reasons is required.
 - However, one's financial state is a sensitive subject, and it is not easy to ask questions about it in the examination room.
- Purpose of this study
 - The purpose of this study was to examine simple questions for screening patients who are at risk of avoiding medical examinations due to economic reasons.

Methods

- Subjects
 - 265 consecutive patients
 - Aged 20 years or older
 - Visited or were admitted to five J-HPH institutions
- Methods
 - Self-administered questionnaire survey
 - The experience of forgoing health care for economic reasons, attributes, household income, educational background, and subjective financial state were investigated.
 - The definition of having a history of forgoing health care for economic reasons was the survey response, “you or your family member having had an experience of forgoing health care for economic reasons within the past year.”
 - Equivalent income of 1,320,000 JPY was set as the poverty line.
- Analysis
 - A multivariate analysis was conducted to examine the relationship between a history of forgoing health care for economic reasons and subjective economic conditions and equivalent income.

Food, clothing, and housing

Frequency of vegetable consumption (less than once a week, 2-3 days a week, or more)

Food restriction due to financial limitations (Yes/No)

Experiences someone within the family going hungry due to the lack of money (Yes/No)

Concern about losing one's home (Yes/No)

Do not own one or more of the following due to financial limitations: TV, refrigerator, microwave, air conditioning system, or telephone (Yes/No)

Experiences not being able to pay rent within the deadline (Yes/No)

Does not own one of the following: toilet, kitchen, or bathroom (Yes/No)

Exclusion from the system

Experiences refraining from purchasing clothes (Yes/No)

Feels anxious about paying medical fees (Yes/No)

Experiences being unable to pay medical insurance by the deadline (Yes/No)

Lack of social relations

Participates in community/organization gatherings (Yes/No)

Greets/talks with people from the neighborhood (Yes/No)

Opportunity to see one's friends/acquaintances (Frequently/No)

Opportunity to contact one's friends/acquaintances (Frequently/No)

Opportunity to see one's family (Frequently/No)

Opportunity to contact one's family (Frequently/No)

Existence of a person who will look after you when you are sick (Exists/None)

Existence of a person whom one can rely on (Exists/None)

Subjective poverty

Being able to enjoy hobbies or small luxuries (Yes/No)

Financial difficulties (Yes/No)

Experiences difficulty getting by before pay day (e.g., salary/pension) (Yes/No)

Experiences difficulty in paying for household expenses (Yes/No)

Are the living conditions difficult financially (Difficult/There is some flexibility)

Table 2. Basic attributes (N=246)

	n	%
Gender		
Female	123	50.0
Male	123	50.0
Age group		
Below 60 years old	119	48.4
60 years old and over	127	51.6
Final academic qualification		
University	80	34.0
High school	111	47.2
Junior high	44	18.7
Equivalent income		
Under 1M JPY	40	17.4
1M-1.49M JPY	25	10.9
1.5M-1.9M JPY	39	17.0
2M-2.49M JPY	36	15.7
2.5M-2.99M JPY	25	10.9
3M-3.99M JPY	30	13.0
Over 4M JPY	35	15.2
Existence of poverty		
Below the poverty line	63	27.4
Above the poverty line	167	72.6
History of forgoing health care for economic reasons	39	16.0

Table3. Frequency of forgoing health care by each factor

			n	History of forgoing health care	
				n	rate (%)
Objective factor					
Gender	Female	123	17	13.8	
	Male	121	22	18.2	
Age	Below 60	118	24	20.3	
	60 and above	126	15	11.9	
Academic background	High school and above	190	26	13.7	
	Junior high school	43	10	23.3	
Equivalent income of below 1.32M JPY	Normal	165	22	13.3	
	Poverty	63	14	22.2	
Subjective factors					
Food, clothing, and housing					
Frequency of vegetable consumption	2 days or more per week	223	30	13.5	
	Once or less per week	21	9	42.9	
Food restriction due to financial limitations	No	218	23	10.6	
	Yes	25	15	60.0	
Experiences making someone within the family go hungry due to a lack of money	No	232	30	12.9	
	Yes	10	8	80.0	
Concern about losing one’s home	No	216	26	12.0	
	Yes	25	11	44.0	
Do not own one or more of the following due to financial limitations: TV, refrigerator, microwave, air conditioning system, or telephone	No	222	30	13.5	
	Yes	20	9	45.0	

		n	History of forgoing health care	
			n	rate (%)
Experiences not being able to pay rent within the deadline	No	230	32	13.9
	Yes	10	7	70.0
Does not own one of the following: toilet, kitchen or bathroom	No	240	39	16.3
	Yes	1	0	0
Experiences refraining from purchasing clothes	No	188	16	8.5
	Yes	56	23	41.1
Exclusion from the system		186	13	7
Feels anxious about paying medical fees	No	56	25	44.6
	Yes	215	31	14.4
Experiences being unable to pay medical insurance by the deadline	No	22	8	36.4
	Yes			
Lack of social relations				
Participates in community/organization gatherings	Yes	49	2	4.1
	No	195	37	19.0
Greets/talks with people from the neighborhood	Yes	183	28	15.3
	No	61	11	18.0
Opportunity to see one's friends/acquaintances	Frequently	167	26	15.6
	No	77	13	16.9
Opportunity to contact one's friends/acquaintances	Frequently	170	26	15.3
	No	74	13	17.6
Opportunity to see one's family	Frequently	141	18	12.8
	No	102	21	20.6
Opportunity to contact one's family	Frequently	177	20	11.3
	No	65	19	29.2

		n	History of forgoing health care	
			n	rate (%)
Existence of a person who will look after you when you are sick	Exists	192	26	13.5
	None	50	13	26.0
Existence of a person whom one can rely on	Exists	213	32	15.0
	None	30	7	23.3
Subjective factors				
Being able to afford to enjoy hobbies or small luxuries	Yes	184	14	7.6
	No	59	24	40.7
Financial difficulties	No	177	13	7.3
	Yes	67	26	38.8
Experiences difficulty getting by before pay day (e.g., salary/pension)	No	188	16	8.5
	Yes	55	23	41.8
Experiences difficulty in paying for household expenses	No	197	15	7.6
	Yes	47	24	51.1
Are the living conditions difficult financially	Have some flexibility	186	20	10.8
	Difficult	55	19	34.6

Table 4. Odds ratio of forgoing health care for economic reasons

	Coefficient of determination	Odds ratio			
		Crude odds	(95%C.I.)	Sex-age-adjusted odds	(95%C.I.)
Objective factor					
Gender (male)	0.4%	1.39	(0.70-2.76)		
Age (60 years and above)	1.5%	0.53	(0.26-1.07)		
Academic background (junior high school)	1.1%	1.91	(0.84-4.34)	3.24	(1.26-8.37)
Equivalent income (below poverty line)	1.3%	1.86	(0.88-3.91)	2.50	(1.12-5.60)
Gender, age, academic, background, and equivalent income	6.1%				
Subjective factors					
Food, clothing, and housing					
Frequency of vegetable consumption (less than once a week)	4.5%	4.82	(1.87-12.43)	5.39	(2.02-14.35)
Food restriction due to financial limitations	14.3%	12.72	(5.12-31.57)	13.10	(5.13-33.46)
Experiences hunger	10.3%	26.93	(5.46-132.90)	25.89	(5.19-129.08)
Concern about losing one's home	6.6%	5.74	(2.36-13.98)	6.09	(2.45-15.09)
Does not own home appliances for financial reasons	4.9%	5.24	(2.00-13.69)	5.06	(1.88-13.61)
Experienced not being able to pay rent	7.2%	14.44	(3.55-58.73)	13.82	(3.37-56.69)
Experienced refraining from buying clothes	13.6%	7.49	(3.58-15.69)	7.30	(3.38-15.79)
Exclusion from the system					
Felt anxiety paying medical fees	18.6%	10.73	(4.96-23.21)	10.35	(4.75-22.54)
Experienced being unable to pay for medical insurance	2.7%	3.39	(1.31-8.76)	4.24	(1.56-11.52)

	Coefficient of determination	Odds ratio			
		Crude odds	(95%C.I.)	Gender-age- adjusted odds	(95%C.I.)
Lack of social relationships					
Do not participate in community gatherings	3.8%	5.50	(1.28-23.69)	4.97	(1.14-21.59)
Do not greet one's neighbors	0.1%	1.22	(0.57-2.62)	1.13	(0.52-2.45)
Do not have the opportunity to meet one's friends/acquaintances	0.0%	1.10	(0.53-2.28)	1.17	(0.56-2.45)
Do not have the opportunity to contact one's friends/acquaintances	0.1%	1.18	(0.57-2.45)	1.49	(0.67-3.27)
Do not have the opportunity to meet one's family	1.2%	1.77	(0.89-3.53)	1.57	(0.77-3.22)
Do not have the opportunity to contact one's family	4.8%	3.24	(1.60-6.59)	3.46	(1.63-7.35)
Do not have a person who looks after you	1.9%	2.24	(1.05-4.77)	2.19	(1.02-4.71)
Do not have a person whom one can rely on	0.6%	1.72	(0.68-4.34)	1.89	(0.72-4.94)
Subjective poverty					
Cannot financially afford to enjoy hobbies	15.2%	8.33	(3.92-17.68)	9.59	(4.35-21.17)
Has financial problems	14.9%	8.00	(3.78-16.91)	7.61	(3.52-16.47)
Experiences difficulty getting by before pay day	14.0%	7.73	(3.68-16.22)	7.24	(3.39-15.47)
Experiences difficulty of paying household expenses	20.2%	12.66	(5.82-27.55)	12.12	(5.44-27.00)
Living conditions are difficult financially	7.3%	4.38	(2.12-9.04)	4.31	(2.06-9.02)

Table 5. Multivariate analysis results

	Coefficient of determination	Odds ratio	(95%C.I.)
Food restrictions due to financial limitations	32.8%	7.38	(2.42-22.55)
Cannot financially afford to enjoy hobbies		3.55	(1.43-8.85)
Experiences difficulty getting by before pay day		3.73	(1.40-9.97)
Experiences refraining from purchasing clothes		2.98	(1.16-7.65)

Age, gender, final academic qualification, equivalent income, and subjective financial state items were inserted into the model as candidate variances.

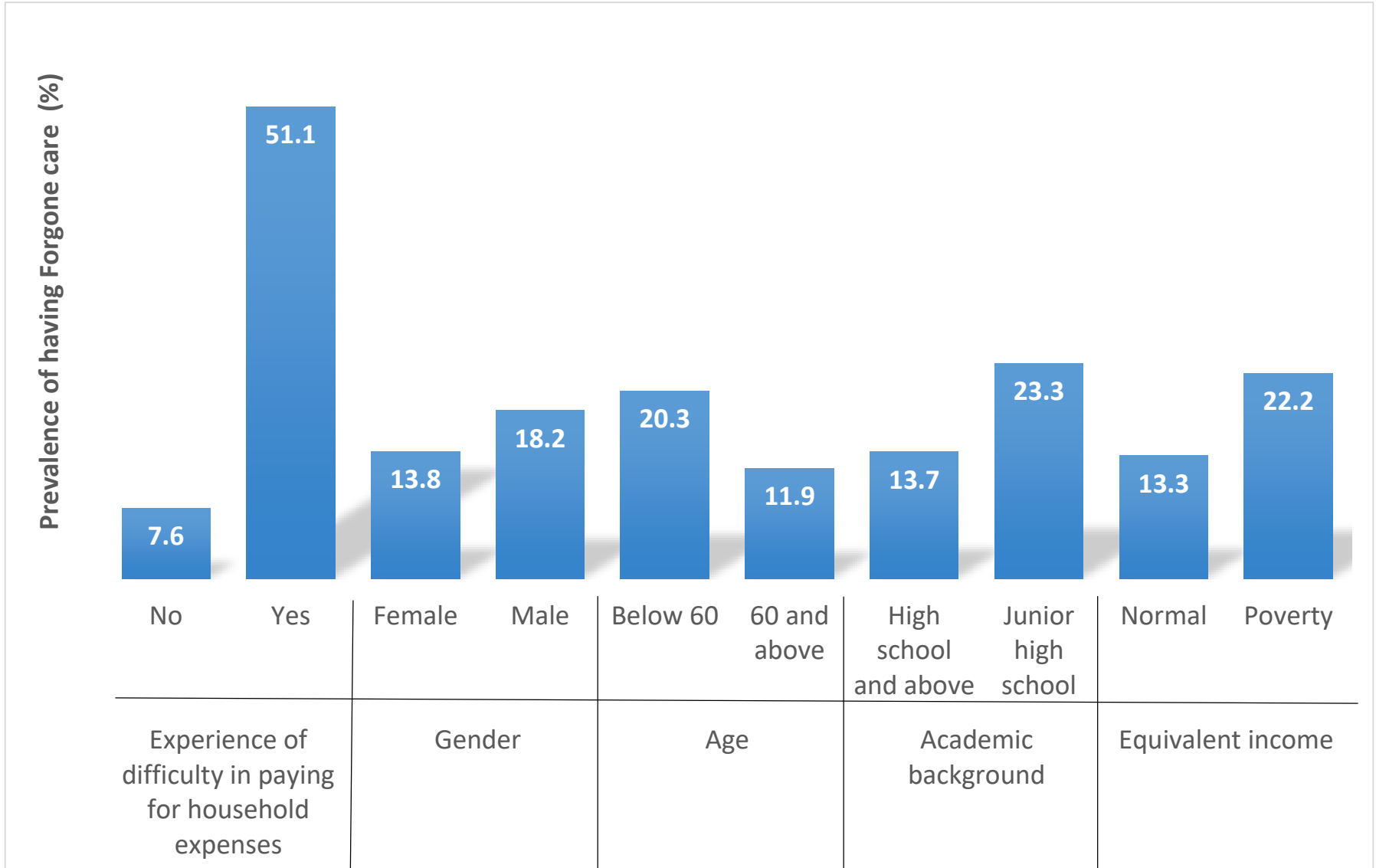
Variances were selected using the backward method with the variance selection criteria p-value set at 0.05.

Table 6. Comparison with past studies

	Xiangjun Li, et al. 2018	Rottger J, et al. 2016	Bodenmann P, et al. 2014	Mielck A, et al. 2009	<i>Our study 2019</i>
Countries	China	Germany	Switzerland	EU countries	Japan
Prevalence of forgoing care	Inpatients 10.2%, Outpatients 6.8%	Outpatients 14.1%	Outpatients 10.7% ^{#a}	2.8-6.4% ^{#a}	16.0%
Objective factors					
Younger age	○	○	○		△
Lower income	○		○	○	○
Lower education	○		○		○
Unemployed and retirement without pension	○				
Subjective factors					
Lower social status			○		○
Economical conditions			○		○

#a: Refraining from seeking outpatient consultation for economic reasons

Figure 1. Frequency of forgoing health care and prevalence rate per factor



Strength and Limitations

- Strength

- This is the first study in Japan to show that inquiries concerning subjective financial conditions are effective in assessing the risk of a patient forgoing health care for financial reasons.

- Limitations

- The number of samples was small. Thus, verification with larger samples is desirable.
- It was a cross-sectional study. Therefore, it is necessary to examine the causal relationship using a longitudinal study.

Conclusions

- The history of forgoing health care for economic reasons was 16.0%.
- It was suggested that the subjective financial conditions patients feel were more effective in screening for the forgoing of health care than objective items (age, gender, education, and income).
- Although it is difficult to ask patients about their academic background and income in medical settings, it is expected that subjective financial questions can be used more easily.

Relevance to HPH

- Interventions in social determinants of health are the most important health promotion issues in health care institutions.
- It is necessary to implement question items on subjective financial conditions as an opportunity to ask detailed questions about financial conditions leading to the usage of social resources to prevent people from refraining from receiving health care.

