

Factors associated with repeated participation in telemedicine and health checkups in Bangladesh and India

Fumihiko Yokota^{*1}, Ashir Ahmed^{*2}, Mariko Nishikitani^{*1}, Rafiqul Islam^{*3}, Rajib Chowdhury^{*4}, Raisa Tasneem^{*4}, Manish Biyani^{*5}, Rajshri Nagar^{*5}, Kimiyo Kikuchi^{*1}, Rieko Izukura^{*3}, Yasunobu Nohara^{*3}, Naoki Nakashima^{*3}

^{*1} Institute of Decision Science for Sustainable Society, Kyushu University, Fukuoka, Japan;

^{*2} Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan;

^{*3} Medical Information Center, Kyushu University Hospital, Fukuoka, Japan

^{*4} Grameen Communications, Dhaka, Bangladesh

^{*5} Department of Nursing, Biyani Group of Colleges, Jaipur, Rajasthan, India

Abstract:

This study investigated factors associated with repeated participations in telemedicine and health checkups provided for office workers as non-communicable disease prevention and management intervention. Baseline survey including questionnaires, health checkups, and telemedicine services was conducted for 538 office workers at Dhaka, Bangladesh and Jaipur, India. After the 6 months, the second survey was conducted. Dependent variable was a repeated participation after 6 months and independent variables were age, sex, education, marital status, body mass index [BMI], hypertension, pre-diabetic, and urinary protein status. Participants aged 30-39, 40-49, 50-59, 60+ years old had higher odds ratios (ORs) than those aged 18-29 to participate again after 6 months (OR=3.7, $P<0.001$; OR=4.6, $P<0.001$, OR=4.3, $P<0.001$, OR=4.1, $P<0.0001$, respectively). Participants with $BMI \geq 25$ and urinary protein positive were significantly less likely to repeatedly participate after 6 months (OR=0.67, $P<0.005$; OR=0.62, $P<0.05$, respectively). People aged 18-29, $BMI \geq 25$, and urinary protein positive need more follow-up support for regular tele-health checkups.

Keywords: Telemedicine, Health check-up, Non-communicable Diseases, Prevention, Disease Management

Table 1: Adjusted Odds Ratios (ORs) and 95 % Confidence Intervals (CIs) for the factors associated with repeated participation (N=538)

Items	ORs	P	95% CIs
Age groups (Years)			
18-29	1		
30-39	3.66	0.001	1.69-7.91
40-49	4.58	0.001	2.06-10.20
50-59	4.31	0.001	2.01-9.22
≥60	4.10	0.004	1.58-10.67
Sex			
Female	1		
Male	0.91	0.703	0.56-1.49
Levels of education			
Less than high school completed	1		
College, university, or higher completed	1.33	0.153	0.90-1.95
Marital status			
Never married	1		
Ever married	0.90	0.802	0.40-2.02
BMI category			
Normal (<25 kg/m ²)*	1		
Overweight or obese (≥25 kg/m ²)	0.665	0.037	0.45-0.98
Hypertension			
No	1		
Yes	1.34	0.181	0.87-2.07
Pre Diabetes (Blood Glucose => 126mg/dl)			
No	1		
Yes	1.11	0.609	0.75-1.64
Proteinuria (Urine protein => 30 mg/dl)			
No	1		
Yes	0.62	0.027	0.41-0.95
Hyperuricemia (Blood uric acid=>7 mg/dl)			
No	1		
Yes	1.53	0.071	0.96-2.42