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Friendly Technology for Older People: Needs and Opportunities

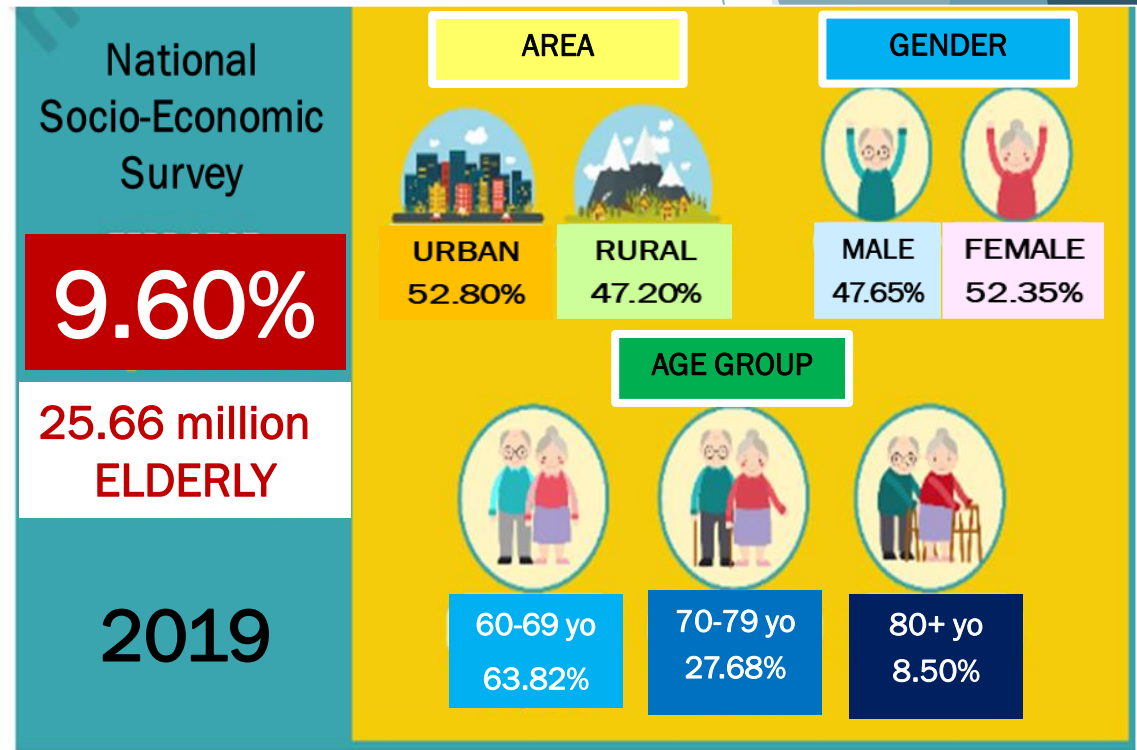
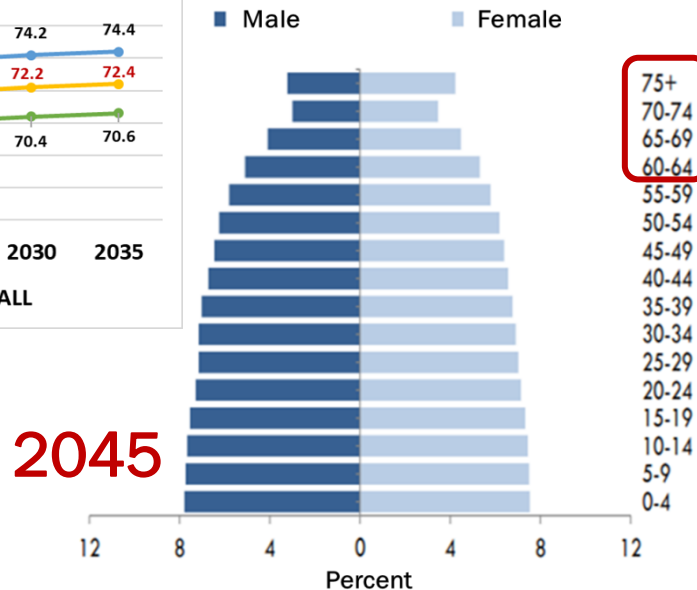
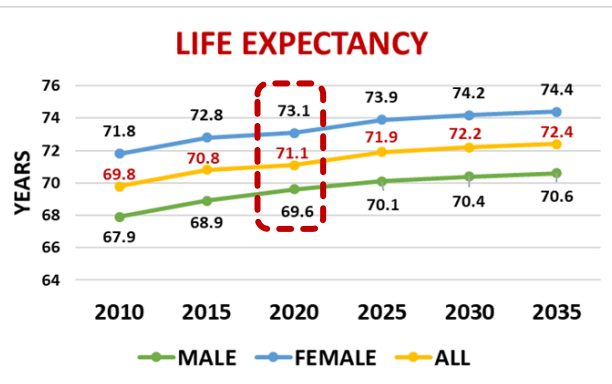
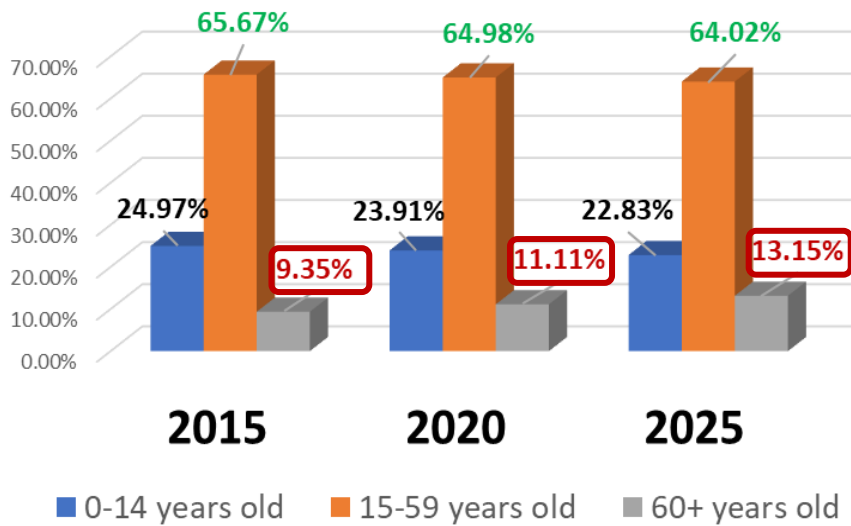
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Outlines

- Indonesia Population is Ageing
- The Need for Information & Communication Technology and Mobile Apps for The Elderly
- ICT Utilization among Indonesian Elderly
- Knowledge, Attitude, dan Practice of ICT & Mobile Apps Utilization in Indonesian Urban Elderly
- Summary

Indonesia Population is Ageing



Proyeksi penduduk Indonesia 2015–2045 (hasil Supas 2015). Jakarta: Badan Pusat Statistik. 2018.
Statistik penduduk lanjut usia 2019. Jakarta: Badan Pusat Statistik. 2019.

The Need for Information & Communication Technology and Mobile Apps for The Elderly

- Technology give positive contribution for healthy aging
- While the younger generation take technology for granted, the elderly is not commonly a tech-savvy
- There are many things that a smartphone can offer to help the elderly in their daily life activities
- The Covid-19 pandemic might **accelerate** the needs of ICT
 - ✓ Telehealth consultation
 - ✓ Virtual communication/ meeting
 - ✓ Online shopping
 - ✓ Virtual recreation

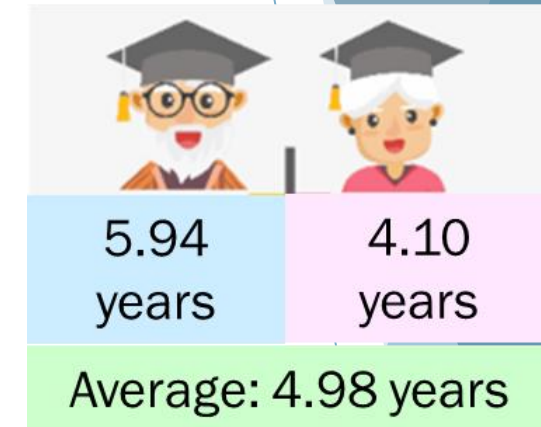
- Making emergency phone calls
- Texting and video chatting with families and relatives
- Using calendar and alarm for reminder of daily planner, events, appointments, medications schedule
- Using GPS to help navigate the places
- Monitoring health through apps
- Accessing the internet
- Accessing the financial technology
- Controlling smart home devices
- Making use of m-Ageing program

ICT Utilization among Indonesian Elderly

CHARACTERISTICS	ACCESS TO ICT		
	USING CELL PHONE	USING COMPUTER	USING INTERNET
TOTAL	43.08%	1.55%	7.94%
AREA			
Urban	49.05%	2.61%	13.43%
Rural	36.41%	0.36%	1.8%
GENDER			
Male	51.81%	2.14%	10.35%
Female	35.14%	0.76%	5.75%
AGE GROUP			
60-69 years old	51.52%	2.14%	10.59%
70-79 years old	32.18%	0.59%	3.96%
80+ years old	15.28%	0.18%	1.06%
SPENDING GROUP			
Lowest 40%	28.13%	0.13%	1.11%
Middle 40%	46.43%	0.57%	5.09%
Highest 20%	71.14%	6.75%	29.39%
DISABILITY STATUS			
Disabled	22%	0.43%	2.14%
Non-disabled	46.64%	1.74%	8.92%

Human Development Index: **71.92**

Average Years of Schooling

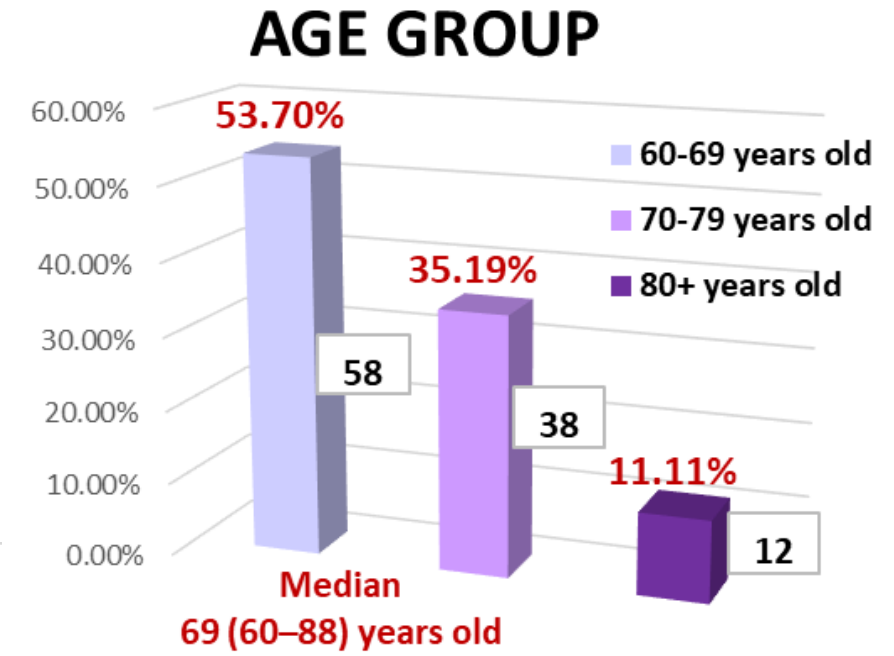
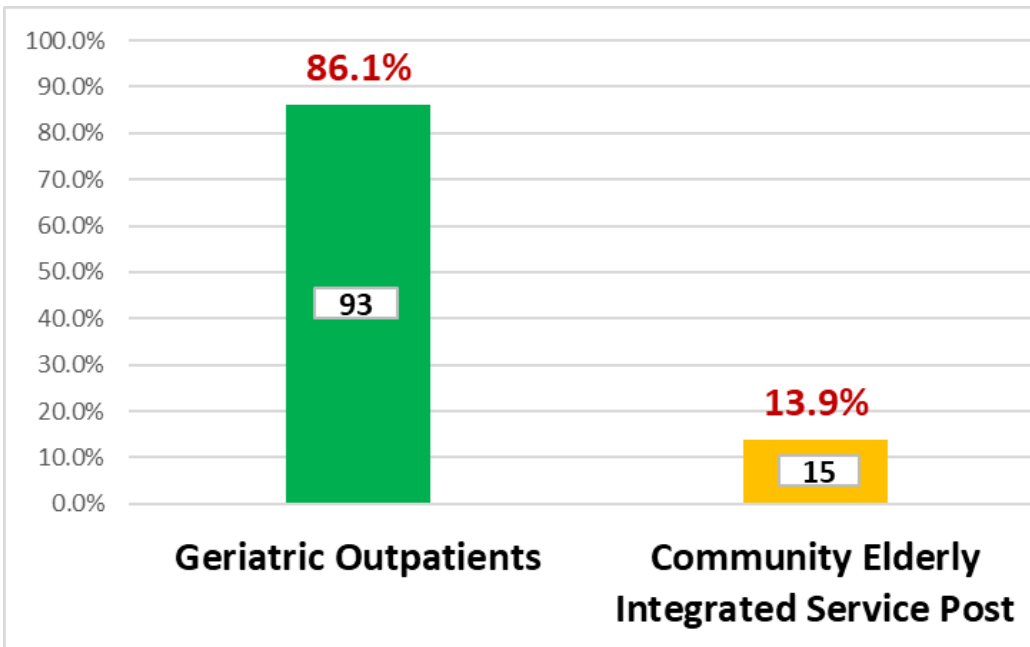


49.39% Working Elderly

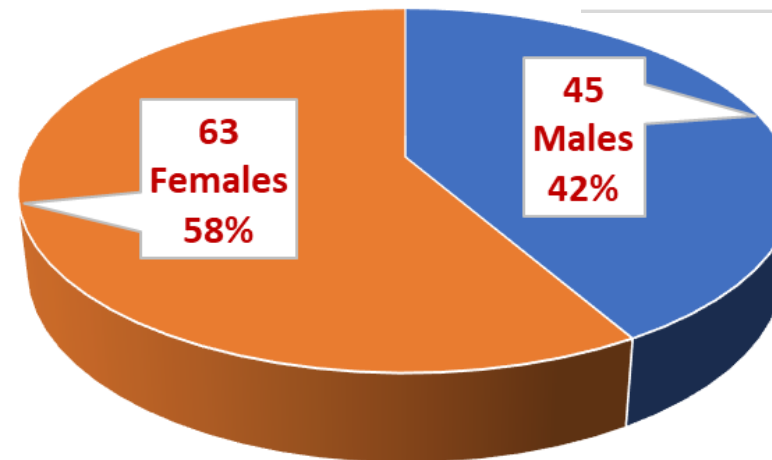


✓ Average Income:
IDR 1,560,000
(USD 106/month)

Knowledge, Attitude, dan Practice of ICT & Mobile Apps Utilization in Indonesian Urban Elderly-(1)



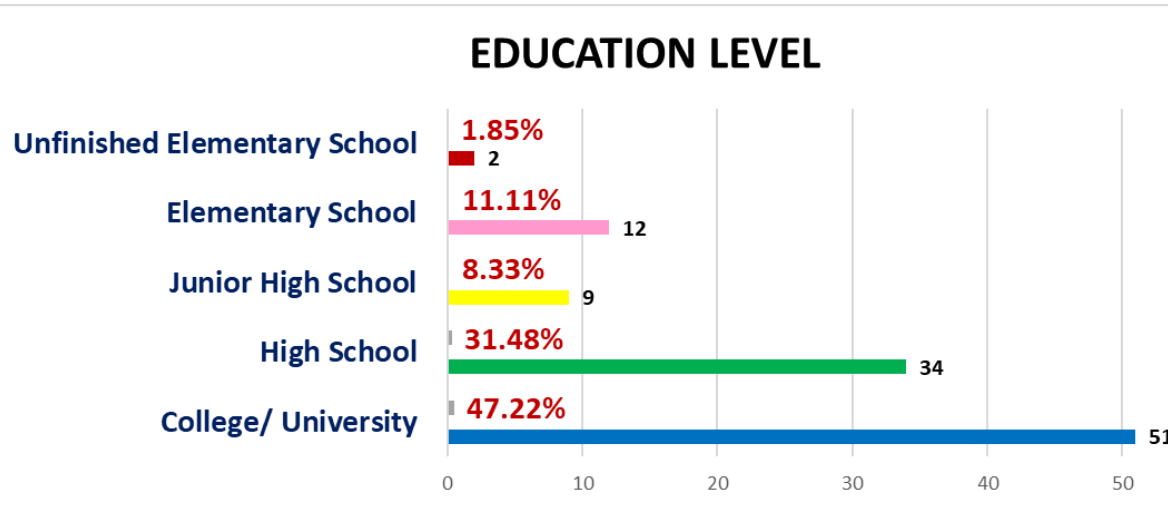
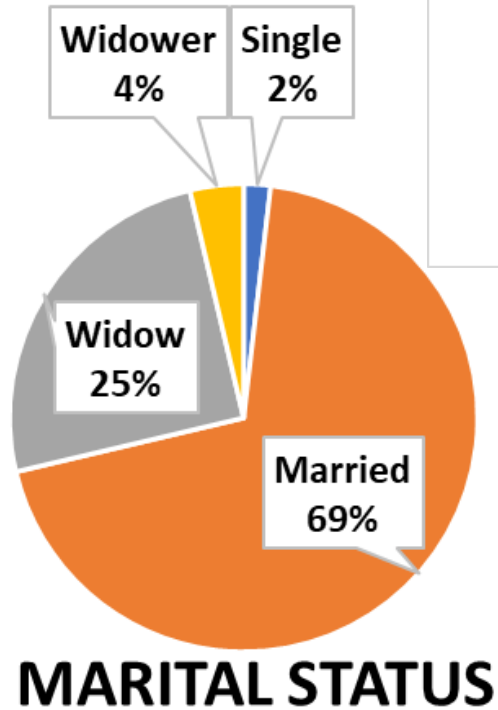
SEX GROUP



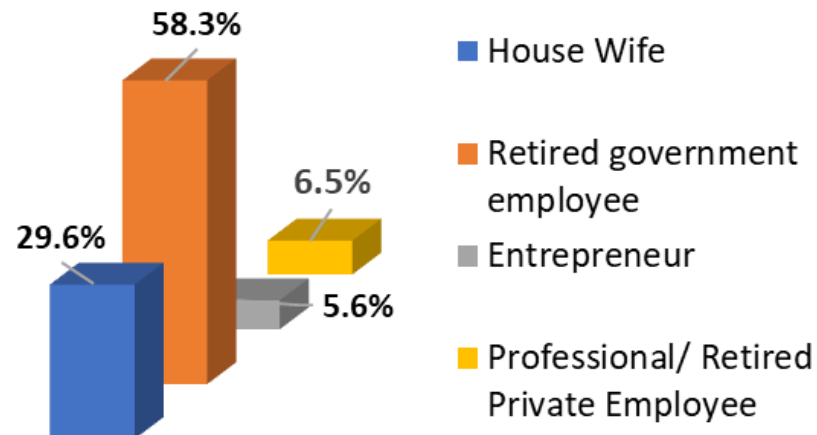
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- Cross-sectional study
- Community dwelling elderly aged ≥ 60 years
- Consecutive sampling
- Online/ telephone survey
- August-October 2020

Knowledge, Attitude, dan Practice of ICT & Mobile Apps Utilization in Indonesian Urban Elderly-(2)



OCCUPATIONAL HISTORY



Social Characteristics	n	%
Living Arrangement		
Living Alone	2	1.85%
Living with Spouse	14	12.96%
Living with Family	92	85.19%
Living Cost		
Own Expense	46	42.59%
Partial Support from Family	38	35.19%
Full Support from Family	24	22.22%
Income per Month		
No Income	19	17.59%
>0–USD 170	43	39.81%
>USD 170–340	34	31.48%
>USD 340–680	11	10.19%
>USD 680	1	0.93%

Unpublished data

Knowledge, Attitude, dan Practice of ICT & Mobile Apps Utilization in Indonesian Urban Elderly-(3)

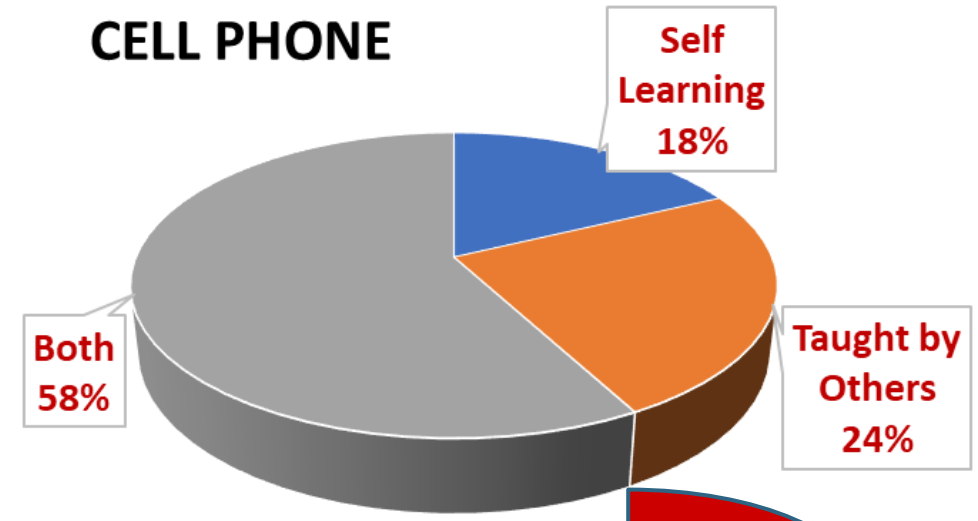
- **9 (8.3%)** Subjects never use cell phone
- **13 (12.04%)** Subjects did not use cell phone for the last 1 month

Reasons for Not Using Cell Phone	n = 13
It is not essential/ important to use a cell phone	7
Difficulties in learning to use a cell phone	7
Do not have the knowledge to use cell phone	6
Difficulties to understand the language used in a cell phone	3
Difficulties to use a cell phone due to visual impairment	3
Difficulties to use a cell phone due to musculoskeletal problems	2
Difficulties to use a cell phone due to cognitive impairment	1
Financial issue	1
Difficulties to use a cell phone due to hearing impairment	0

Knowledge, Attitude, dan Practice of ICT & Mobile Apps Utilization in Indonesian Urban Elderly-(4)

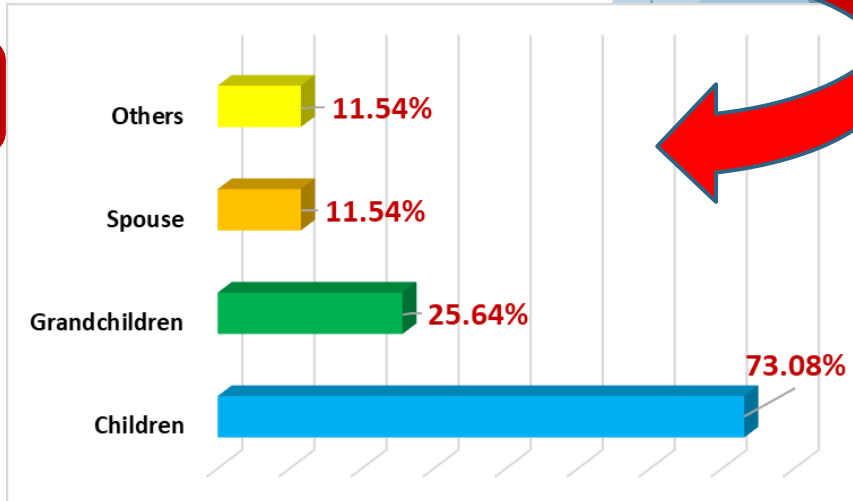
- Most subjects (**95.79%**) who use cell phone, have their own cell phones
- **1 in 4 Subjects** need help from other people to use cell phone:
 - ✓ **76%** to use the applications/ new applications other than phone call/ SMS/ WA
 - ✓ **24%** to make a telephone call

LEARN HOW TO USE CELL PHONE



Common Difficulties/ Troubles When Using Cell Phone	n = 95
Difficulties in Learning Mobile Applications	47.37%
Visual Impairment	27.37%
Poor Signal/ Network	5.26%
Hearing Impairment	4.21%
Memory Impairment	4.21%
Lack of Purchase Credit	3.16%
Musculoskeletal Problems	1.05%

Unpublished data



Knowledge, Attitude, dan Practice of ICT & Mobile Apps Utilization in Indonesian Urban Elderly-(5)

Cell Phone Usage	n = 95
Frequency	
<1x/week	1.05%
1–3x/week	6.32%
4–6x/week	4.21%
Everyday	88.42%
Duration When Using Everyday	
<1 hour/day	10.67%
1-4 hours/day	77.33%
5-8 hours/day	12.00%
Time	
In the Morning	30.53%
Day Time	35.79%
In the Afternoon	9.47%
In the Evening	24.21%

Operating System	
Android	54.74%
Others	2.11%
Does not know	43.16%
Purchase New Cell Phone	
>3 years	72.63%
Every 2–3 years	21.05%
Every year	1.05%
No Answer	5.26%
Type of Internet Package	
Purchase Credit	41.05%
Wifi/ Internet Subscription	31.58%
Both	22.11%
Non-user	5.26%
The Purchase Credit/ Package	
<IDR 50,000 (<USD 3.4)	10.00%
IDR 50,000-<100,000 (USD 3.4-<USD 6.8)	38.33%
IDR 100,000-<150,000 (USD 6.8-<USD 10.2)	20.00%
IDR 150,000-<250,000 (USD 10.2-<USD 17)	13.33%
IDR ≥250,000 (≥USD 17)	18.34%

Unpublished data

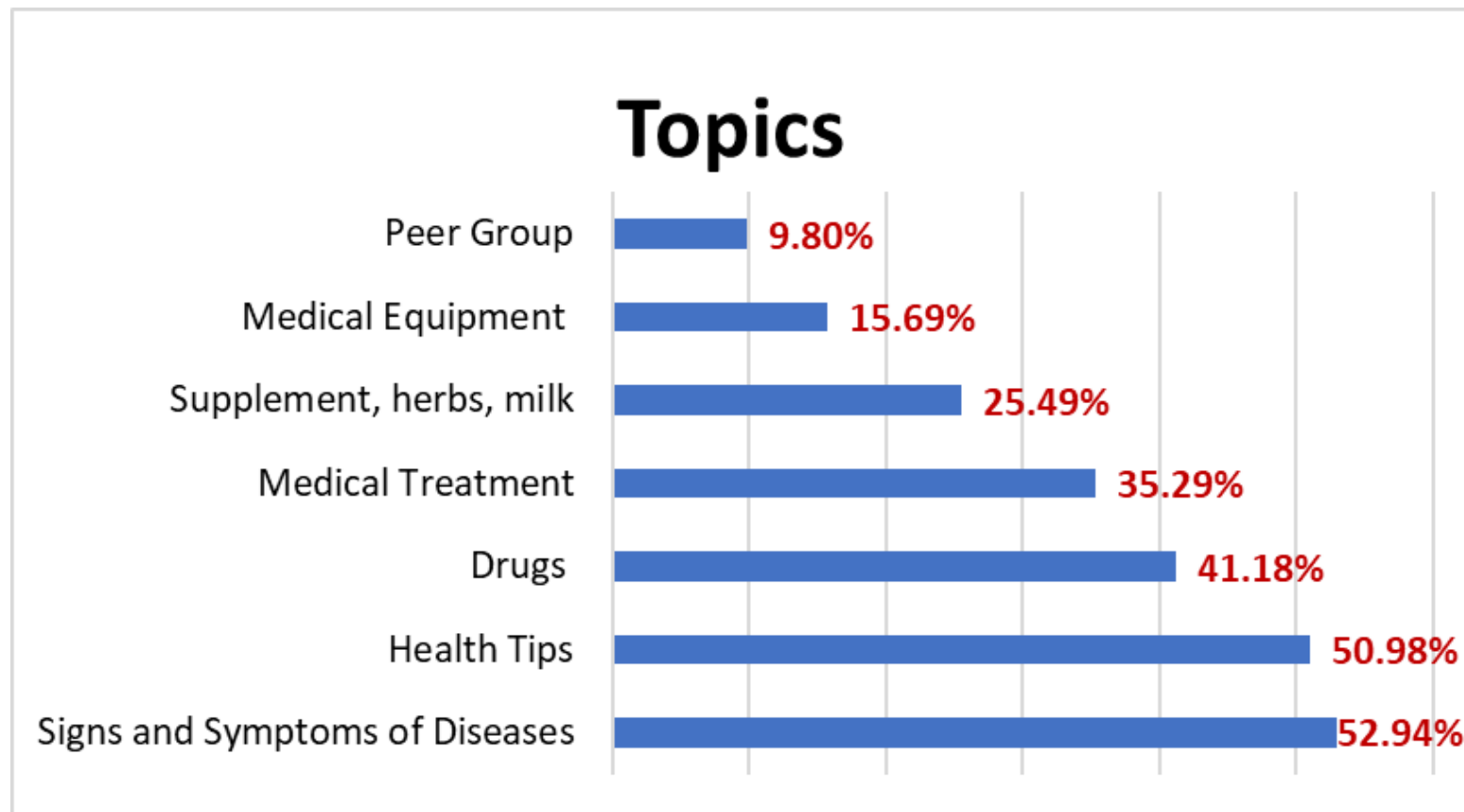
Knowledge, Attitude, dan Practice of ICT & Mobile Apps Utilization in Indonesian Urban Elderly-(6)

Cell Phone Features	User			Non-user
	Chatting/ Phone Call	Social Media	Video Call	
Telephone	64.21%			
Whatsapp	35.79%	72.63%	67.37%	Non-user of Social Media Apps 17.89%
Facebook		5.26%		
Instagram		4.21%		
Zoom			6.32%	Non-user of Video Call Apps 25.26%
Google Meet			1.05%	
Online Transport Apps		45.26%		54.74%
Online Shopping Apps		24.21%		75.79%
e-Money Apps		18.95%		81.05%
m-Banking		25.26%		74.74%
News Apps		34.74%		65.26%
Religious Apps		62.11%		37.89%
Entertainment Apps	YouTube	Netflix	Tik Tok	Non-user of Entertainment Apps 31.58%
	66.32%	1.05%	2.11%	
Health Apps		15.79%		Non-user of Health Apps 85.26%

Unpublished data

Knowledge, Attitude, dan Practice of ICT & Mobile Apps Utilization in Indonesian Urban Elderly-(7)

➤ 53.68% Subjects use cell phone to browse health information



Unpublished data

Knowledge, Attitude, dan Practice of ICT & Mobile Apps Utilization in Indonesian Urban Elderly-(8)

NO.	ATTITUDE	Strongly Agree	Agree	Disagree	Strongly Disagree
1	I think it is important for the elderly to be able to use cell phone	24.07%	63.89%	10.19%	1.85%
2	I feel cell phone plays an important role in my life	17.59%	63.89%	15.74%	2.78%
3	I feel there is no difficulty in using the cell phone	7.41%	59.26%	29.63%	3.70%
4	I feel that my cell phone makes it easier for me to do my daily activities	16.67%	69.44%	12.04%	1.85%
5	I feel that my cell phone helps me to communicate with my family, friends, and relatives	34.26%	61.11%	2.78%	1.85%
6	I think it is important to take advantage of technology to improve the health of the elderly	14.81%	73.15%	11.11%	0.93%
7	I feel that I need a mobile-based elderly health application	14.81%	68.52%	15.74%	0.93%
8	I think the elderly health application is better in Indonesian language	18.52%	76.85%	2.78%	1.85%
9	I think there is no problem if the elderly health application uses English language	1.85%	24.07%	60.19%	13.89%
10	I think, it is better if the elderly health application is adapted according to Indonesian culture	14.81%	79.63%	4.63%	0.93%
11	I think the elderly health application is better if it can be accessed via cell phone	15.74%	75.93%	7.41%	0.93%
12	I think the elderly health application is better accessed via computer only	0.93%	12.96%	74.07%	12.04%
13	If there is an elderly health application I will use it	13.89%	74.07%	9.26%	2.78%
14	I am willing to pay a subscription fee for the elderly health application	0.93%	23.15%	67.59%	8.33%
15	The condition of the COVID-19 pandemic requires me to use cell phone more	14.81%	52.78%	29.63%	2.78%

Unpublished data

Knowledge, Attitude, dan Practice of ICT & Mobile Apps Utilization in Indonesian Urban Elderly-(9)

NO.	PRACTICE	Every day	4–6x/week	1–3x/week	<1x/week	<2x/month	Never
1	I make use of information and communication technology (e.g. cell phone, computer) to help with my daily activities	41.67%	8.33%	13.89%	12.96%	10.19%	12.96%
2	I use various features/ applications on my cell phone to help with my daily activities	25.00%	6.48%	14.81%	10.19%	13.89%	29.63%
3	I use my cell phone to find health information (e.g. detik.health, geriatri.id, wikipedia, mayo clinic)	4.63%	5.56%	12.04%	10.19%	12.04%	55.56%
4	I use general health applications (e.g. halodoc, alodokter)	4.63%	0.93%	2.78%	3.70%	8.33%	79.63%
5	I use a special health application for the elderly	1.85%	0.00%	0.93%	0.00%	4.63%	92.59%

Unpublished data

Knowledge, Attitude, dan Practice of ICT & Mobile Apps Utilization in Indonesian Urban Elderly-(10)

The best media to access elderly health Information	
Cell phone	57.41%
Television	34.26%
Print Media (e.g. newspaper, magazine)	5.56%
Computer	1.85%
Radio	0.93%
The best choice of cell phone features to give information on elderly health	
Instant messenger application (WA)	55.56%
Online Elderly Health Apps	23.15%
SMS	8.33%
Media Social (FB, Instagram)	5.56%
Youtube	0.93%
Non-user	6.48%

Expected Features of a mobile-based elderly health application	
Health Tips Article	84.26%
Health Education Video	73.15%
Online Health Consultation	73.15%
Health Self-assessment	53.70%
Diary (e.g. medications, food and fluid intake,	39.81%
Calculator (e.g. ideal body weight, food caloric)	36.11%
Health Tips Podcast	37.04%
Online Shopping of Medical Equipment and Elderly Needs	16.67%
Games	8.33%
Non-user	3.70%

Summary

- There are needs and opportunities for the use of technology by the elderly
- Indonesian urban elderly tend to start embracing the digital life. However they still encounter some difficulties to make the most of their cell phones
- Family plays an important role to teach technology to Seniors
- It is important to create a demand for the elderly to use the ICT and Fintech
- Develop age-friendly cell phone and mobile applications
 - ✓ Free apps that user friendly
 - ✓ Visually attractive with easier way and options to enlarge the display that accommodate elderly with visual impairment and/ or musculoskeletal problems
 - ✓ Deliver in the elderly own national language with culturally adapted contents
 - ✓ Use e-prints and audio-visual media for elderly health educational contents through instant messenger and elderly health applications



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THANK YOU

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KARIMUNJAWA ISLAND