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# The Level of Digital Health Literacy and Its Associated Factors Among Elderly in Three Villages at Jempol, Negeri Sembilan, 2023

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## Introduction

### Digital Health Literacy (DHL)

"ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem" (4)

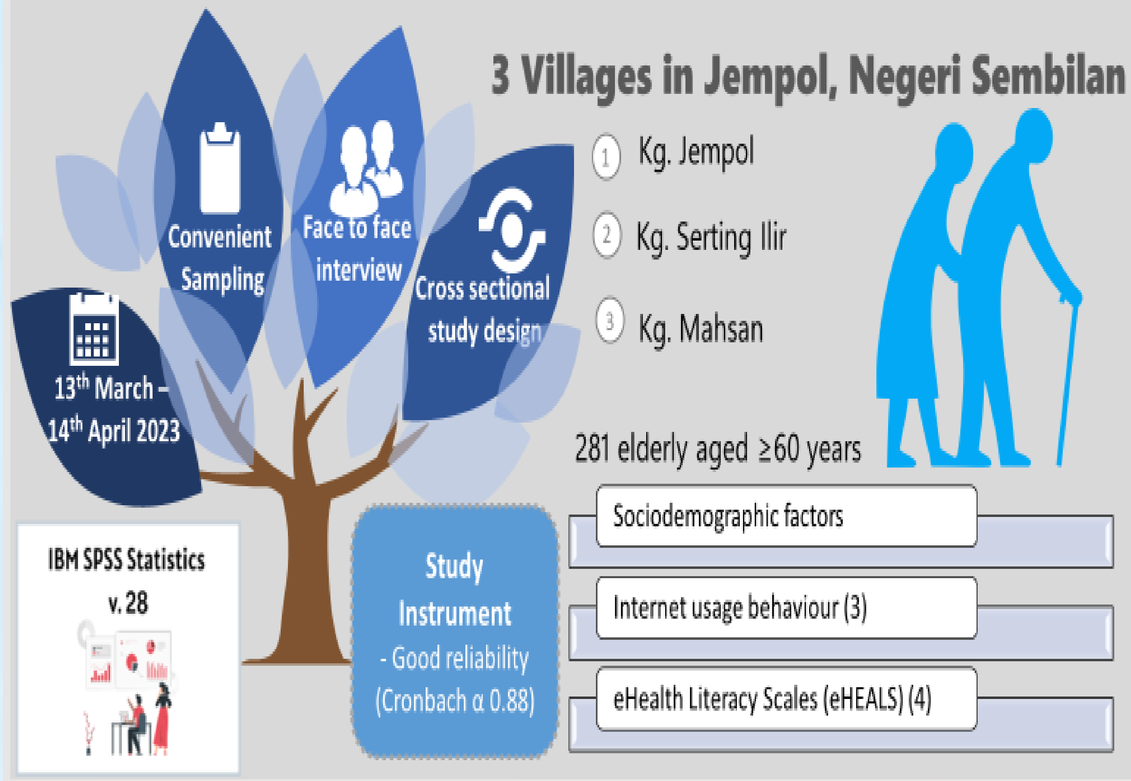
**Worldwide trend**
essential to improve the access and utilization of healthcare services, patient interaction, and self-care

**Previous study**
- limited health literacy level highest among the elderly (1)
- DHL among primary care patients in Malaysia was low (2)

**Low DHL**
could result in health inequities, where certain individuals can fully utilize patient engagement technologies while others are unable to do so

**Study Purpose**
to determine the level of digital health literacy and its associated factors among elderly in Jempol, Negeri Sembilan.

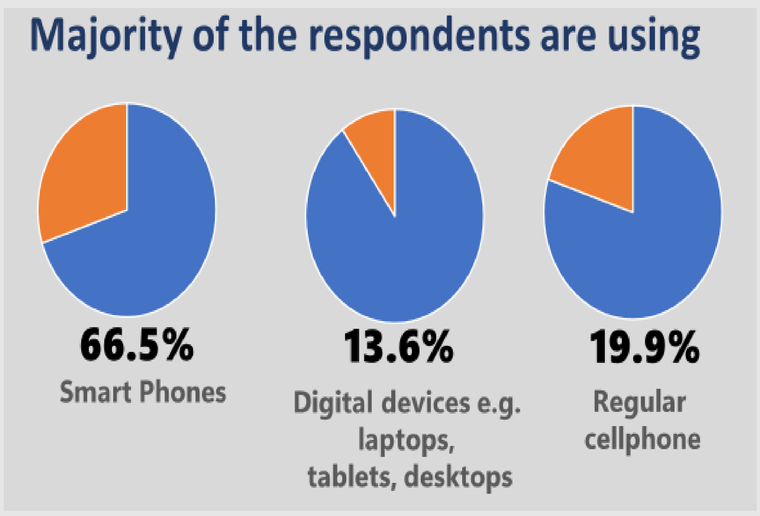
## Materials & Methods




## Results & Discussion

### Descriptive Analysis

The median score of DHL was 12 (Interquartile range:18)




### Bivariate Analysis

**Table 1.** Association between Sociodemographic Factors and Internet Usage Behaviour with DHL among Elderly using Spearman's rank Correlation (N=281)

| Factors | Correlation coefficient (r) | *p*-value |
|---|---|---|
| **Sociodemographic Factors** | | |
| Age (years) | -0.346 | <0.001* |
| Monthly household income (RM) | 0.440 | <0.001* |
| **Internet Usage Behaviour** | | |
| Duration of internet usage (years) | 0.738 | <0.001* |
| Time spent using the internet per day (hours) | 0.703 | <0.001* |

(*)-p<0.05 is significant

### Discussion

- The low prevalence of DHL among this study respondents is lower compared to previous study in developing country (3).
- This can be contributed to the rural demographic backgrounds:
  - lower education level
  - lower household income
  - unemployed
  - internet usage behaviour that is still limited.

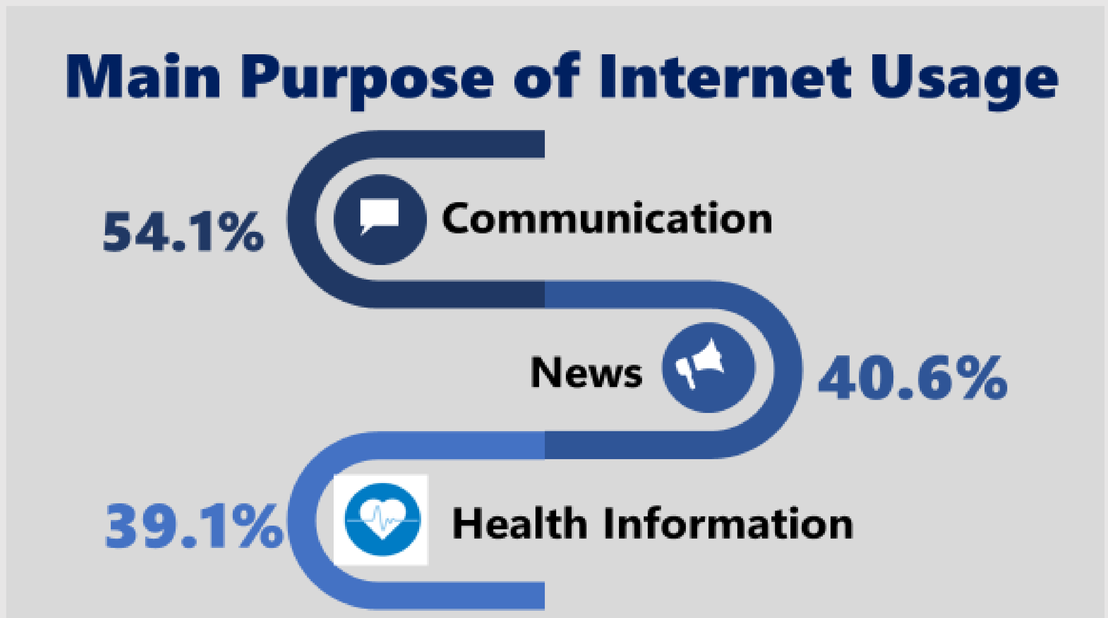



**Table 2.** Association between Sociodemographic Factors and Internet Usage Behaviour with DHL among Elderly using Mann-Whitney U and Kruskal Wallis test (N=281)

| Factors | U[a]/H(df)[b] | *p*-value |
|---|---|---|
| **Sociodemographic Factors** | | |
| Gender | 8716.500[a] | 0.092 |
| Ethnicity | 18.749 (2)[b] | <0.001* |
| Marital status | 20.103 (2)[b] | <0.001* |
| Highest education level | 81.396 (4)[b] | <0.001* |
| Current occupational status | 8.459 (2)[b] | 0.015* |
| **Internet Usage Behaviour** | | |
| Number of devices used | 71.922 (2)[b] | <0.001* |
| Frequency of internet usage per week | 130.929 (2)[b] | <0.001* |
| Frequency of receiving guidance | 135.326 (3)[b] | <0.001* |
| Seeking health information | 1347.000[a] | <0.001* |

([a])-Mann-Whitney U test. ([b])-Kruskal-Wallis test. (*)-*p*<0.05 is significant

## Summary

DHL is essential to improve the access and utilization of healthcare services, patient interaction and self-care management for better outcome of healthcare services. The purpose of this study was to determine the level of DHL among elderly in Jempol and its associated factors. The level of DHL among elderly was considerably low with median of 12 (Interquartile range:18). Factors associated with higher level of DHL among elderly:

**Sociodemographic Factors**
- ↓Age
- Malay
- Married
- ↑Education level
- ↑Monthly household income
- Currently working

**Internet Usage Behaviour**
- ↑Number of devices
- ↑Duration of Internet usage
- ↑Frequency per week Internet usage
- ↑Time spent per day using Internet

Keywords: Digital health literacy, health literacy, elderly, sociodemographic, Internet usage

## Conclusion & Recommendation

There is significant association between all the factors studied and DHL among elderly in this study except gender. This gives new insight into DHL among elderly in rural areas that can be used in future intervention programmes improvements. Health authorities should include the elderly population in digital health strategies for better health access, in line with the development of the digital age.

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