

Acceptability and Feasibility of Smart Phone Application "OSOMO Prompt" for Health Surveillance in Older Adults by Community Health Workers

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Abstract The magnanimous functionalities and flexibility of smartphone device make them well suited for collecting field data, especially for the local healthcare professional. This paper describes the results of the acceptability and feasibility for community health workers (CHWs) after using smartphone application called 'OSOMO prompt' app. The results indicated that the comparison of means of one sample t-test responses to the questions on the perceived usefulness and perceived ease of use of 'OSOMO prompt' app. The CHWs found that the high average scores of using the 'OSOMO prompt' app were useful in their job (mean=3.97±.68) and easy to use (Mean=3.95±.62). The app also had high score point of improving the quality of CHWs work, easy to do CHWs job, clearly and stability app while all items of perceived usefulness and perceived ease of use were statistical significantly (p-value <.001). In conclusion, challenging of smartphone 'OSOMO prompt' app was feasible and acceptable to CHWs.

Keywords mobile phone application, health surveillance, community health workers, elderly population, village health volunteer

1. Introduction

Mobile devices have become commonplace in health care settings, leading to rapid growth in development of medical software applications (app) (1). Smartphone devices are now widely accessible and powerful to accomplish many the same functions as desktop computers. It emerges as an option for data collection in real world studies

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because of their portability (2). In addition to voice and text, new mobile device models offer more advanced features, such as web searching, global positioning systems (GPS), high-quality cameras, and voice recorders (3). This study evaluated the acceptability and feasibility of CHWs after using a smartphone application called ‘OSOMO prompt’. The app was created for CHWs (village health volunteers, VHV) in the areas. The app also showed the elder’s location, risk points of chronic disease, and road maps for convenient access to hospitals. The results of the evaluation of “OSOMO Prompt” app will be contributed by stakeholders and public health authorities to encourage their colleagues for sustainable maintenance of the health information of the elderly in their areas.

2. Methods

2.1. The “OSOMO Prompt” smartphone app

The smartphone app “OSOMO Prompt” was created for iPhone (iOS), Android devices, and web browsers for 1,201 CHWs measuring the acceptability and feasibility of gathering elder health information. The main page menu consists of 4 menus: 1) health assessment, 2) home visiting, 3) knowledge management, and 4) emergency. The app allowed 3 authorities staff to handle data – healthcare professional administrative and healthcare professional sub-admin, IT person, and VHV (Figure 1).

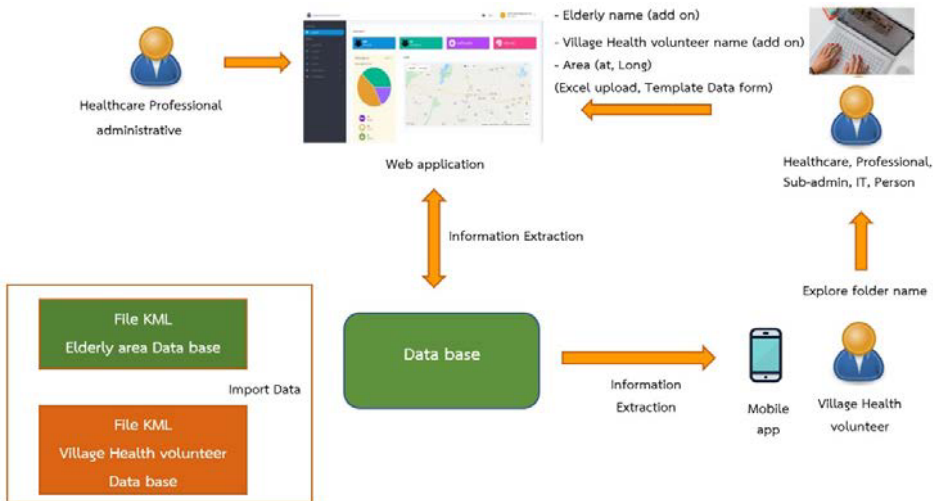


Figure 1 The flowchart system of “OSOMO Prompt” smartphone application.

2.2. Population and samples

Totally 1,201 community health workers were recruited from 8 areas of Northeast Thailand, for evaluating acceptability and feasibility after the implementation of the ‘OSOMO prompt’ app. Research protocols were in accordance with the Declaration of Helsinki, voted by 2 reviewers, approved by the Ethical Review Committee for Human Research, Maha Sarakham Provincial Public Health Office, and endorsed by the chairperson Mr. Pakee Sappipat (No.6/2564).

2.3. Tools for evaluation the smartphone application

The Technology Acceptance Model (TAM) (4) was applied for the evaluation by comparing the means of one sample t-test responses to the questions on the perceived usefulness of the ‘OSOMO prompt’ app. A five-point Likert type scale was used ranking from 1 (‘Not useful at all’) to 5 (Very useful). The overall test value was 3.52, $p < 0.05$, confirming work by Saadé et al. (5).

3. Results

The results reported the perceived usefulness and ease of use of ‘OSOMO prompt’ app. The CHWs found the app useful in their jobs (3.97+.68) and easy to use (3.95+.62). The highest average items score was ‘Using ‘OSOMO prompt’ app makes it easy to do CHWs jobs (4.0+.66)’. All variables were found statistically significant (Table1).

Table 1. The perceived usefulness and perceived ease of use of mean scores of the “OSOMO Prompt” smartphone app. (test value =3.52, n=1,201)

Questions	Mean (SD)	t-value	P-value
1. Using ‘OSOMO prompt’ app improves the quality of the work I do.	4(.65)	25.90	.001
2. ‘OSOMO prompt’ app enables me to accomplish tasks more quickly.	3.99(.64)	25.38	.001
3. Using ‘OSOMO prompt’ app increases my job performance.	3.97(.64)	24.17	.001
4. ‘OSOMO prompt’ app supports critical aspects of my job.	4(.65)	25.78	.001
5. Using ‘OSOMO prompt’ app increases my productivity.	3.97(.66)	23.65	.001
6. Using ‘OSOMO prompt’ app enhances my effectiveness on the job.	3.85(.65)	17.49	.001
7. Using ‘OSOMO prompt’ app makes it easy to do my job.	4(.66)	24.97	.001
8. Using ‘OSOMO prompt’ app gives me greater control over my work.	3.80(.71)	13.89	.001
9. Using ‘OSOMO prompt’ app allows me to accomplish more work than would otherwise be possible.	3.91(.63)	21.29	.001
10. Overall, I find ‘OSOMO prompt’ app useful in my job.	3.97(.68)	22.77	.001
11. I find it takes a lot of effort to become skillful at using ‘OSOMO prompt’ app.	3.97(.68)	23.44	.001
12. Interacting with ‘OSOMO prompt’ app requires a lot of mental effort.	3.96(.65)	16.07	.001
13. I find ‘OSOMO prompt’ app cumbersome to use.	3.83(.67)	19.33	.001
14. I find it easy to get ‘OSOMO prompt’ app to do what I want to do.	3.89(.67)	23.72	.001
15. My interaction with ‘OSOMO prompt’ app is clear and stable.	3.97(.66)	23.20	.001
16. ‘OSOMO prompt’ app is rigid and inflexible to interact with.	3.95(.65)	18.49	.001
17. It is easy to remember how to perform tasks using ‘OSOMO prompt’ app.	3.88(.68)	21.45	.001
18. Learning to operate ‘OSOMO prompt’ app is easy for me.	3.94(.67)	23.53	.001
19. Interacting with ‘OSOMO prompt’ app is often frustrating.	3.95(.64)	22.78	.001
20. Overall, I find ‘OSOMO prompt’ app easy to use.	3.95(.62)	24.10	.001

4. Discussion

This paper presents an assessment of the feasibility and acceptability of the ‘OSOMO prompt’ app using TAM method. The results revealed that CHWs felt the app was useful in their job suggesting that the app improved the quality of the work of CHWs and supports critical aspects of their job. Previous studies have suggested that the participants had positive perception of the mobile phone (6) and adoption of 7 dimensions of perceived ease of use, perceived usefulness, facilitating conditions, social influence, perceived value, workflow practices, and behavioral intention to use. (7). The CHWs also found it took some effort to become skillful. Intervention from higher health authorities is necessary to enforce the use of smartphone in clinical practice (8). It was

also recommended that conducting user experience studies resulted in high uptake of digital technology (9).

5. Conclusion

The “OSOMO Prompt” app enchanted community health workers with its usefulness in their jobs and easy-to-use features to expand their experiences in career practice. With this implementation, the app may be able to provide meaningful and accurate information to serve the vital purpose of improving elder health outcomes.

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