UTILIZATION OF ELECTRONIC REMINDER METHOD ON ENHANCEMENT HAZARD REPORTING CARDS IN OIL & GAS COMPANY X
Pemanfaatan Metode Electronic Reminder Terhadap Peningkatan Pengisian Kartu Pelaporan Bahaya Di Perusahaan Migas X

Hannisa Yanuar Utama[1], Acim Heri Iswanto[1], Dwi Mutia Wenny[1]
[1]Public Health Faculty, Pembangunan Nasional Veteran Jakarta University, Indonesia
hannisayanuar@gmail.com

ARTICLE INFO

ABSTRACT

Background: Hazard reporting card is a tool used to identify hazards and risks in the workplace. Based on data obtained by researcher, the filling of hazard reporting cards at oil and gas company X, there are only about 30% - 75%, the reason is because employees often forget to fill in, while all employees are required to fill cards every month. Purpose: The purpose of this study is to analyze the possibility of whether the electronic reminder method can be used to increase the number of employee participation in filling out hazard reporting cards. Methods: This study uses a literature review study. Results: The results of the study in 21 journals showed that there were 15 journals successfully applying the reminder method and there were 6 journals stating there were positive responses from respondents towards the application of the electronic reminder method. Conclusion: The conclusion of this research is that this method can be recommended to be applied in the HSE field of the office in the oil and gas company X.
Keywords: Hazard reporting card, reminder, electronic reminder, literature review study

ABSTRAK

Latar Belakang: Kartu pelaporan bahaya merupakan sebuah alat yang digunakan untuk mengidentifikasi bahaya dan risiko di tempat kerja. Berdasarkan data yang didapat oleh peneliti, pengisian kartu pelaporan bahaya pada perusahaan migas X, hanya ada sekitar 30% - 75%, hal ini disebabkan karena karyawan sering lupa mengisi, sedangkan semua karyawan diwajibkan untuk mengisi kartu setiap bulannya. **Tujuan:** Tujuan dari penelitian ini ialah menganalisis kemungkinan apakah metode *electronic reminder* dapat digunakan untuk meningkatkan angka partisipasi karyawan terhadap pengisian kartu pelaporan bahaya. **Metode:** Penelitian ini menggunakan jenis penelitian *literature review*. **Hasil:** Hasil penelitian pada 21 jurnal menunjukkan terdapat 15 jurnal berhasil menerapkan metode *reminder* serta terdapat 6 jurnal menyatakan adanya respon positif dari responden terhadap penerapan metode *reminder*. **Kesimpulan:** Kesimpulan dari penelitian ini yaitu metode ini dapat direkomendasikan untuk diterapkan pada bidang K3 bagian kantor di perusahaan migas X.
Kata kunci: Kartu pelaporan bahaya, *reminder*, *electronic reminder*, studi literatur

Hannisa, et al. Utilization of Electronic Reminder Method on Enhancement Hazard Reporting Cards in Oil & Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

INTRODUCTION

According to OHSAS, a hazard is a source, situation, or action with potential harm in terms of human injury, health disorders, or a combination of these (Occupational Health and Safety Management Systems (OHSAS), 2007). Law of the Republic of Indonesia No. 22 of 2001 states that this oil and gas business activity has a major role in providing improvement to the country's economy (Law of the Republic of Indonesia No 22 of 2001, 2001). Pertamina EP management knows that the oil and gas industry is very synonymous with the characteristics of High Risk, High Cost, and High Uncertainty (BUMN, 2016). In one of the private oil and gas companies, oil and gas company X, in order to control the high risk that is likely to occur in the oil and gas industry, the company implements a program in the form of a hazard reporting card that employees use to report if there is a danger in the environment around the workplace.

The hazard reporting card applied to oil and gas company X was launched in March 2019 and is enforced for employees who work in the field as well as employees in offices. Then, in July 2019, the X oil and gas company introduced a new method of filling in a hazard reporting card, namely filling it online. This online filling can be done by all employees, by accessing the company portal by logging in using the username and password of each employee. Meanwhile, for the hazard reporting card filling manually using paper, the card is placed in a box that is placed in several corners of the office. The format for filling out this hazard reporting card, either manually using a card or using an online method, already has a format made by the company's Occupational Safety and Health (K3) section, so employees only need to fill in according to the existing format.

The hazard reporting card for oil and gas company X has several obstacles, one of which is, based on the data that researchers have done previously regarding hazard reporting cards in oil and gas company X, the percentage of filling in hazard reporting cards for office employees is quite low with only around 30 % up to 75% who fill in the card from the target of 100% filling every month. Based on previous research, it was found that the obstacles experienced by office employees with this hazard reporting card program were that employees forgot to fill in the card after the employee saw a potential hazard in the environment around the workplace. This is because in order to fill in the hazard reporting card, employees must report using a predetermined tool, either using paper manually or online on the company portal. This obstacle causes employees to forget and not fill in, resulting in the percentage of filling in the hazard reporting card at the company being lower than the target desired by the company.

Based on the description of the problem above, the researcher wants to see whether the problem can be reduced if the company applies a method, namely the electronic reminder method, which has a concept that all employees get a reminder through electronic media in the form of short message or email that contains the card. The application of this method is more focused on office employees, because it is as previously explained that low filling rates are found in office employees. The electronic reminder method itself is still very rarely applied in the OHS sector, especially for this hazard reporting card program, but in several other fields this method has been implemented, one of which is the general health sector. The health sector is a field that is quite close to the K3 field, ever, even quite often applying this method on various occasions. In addition, the researcher obtained information from the K3 employees at the X oil and gas company that they had never applied this method, and also by using search keywords in the electronic database that had been predetermined by the researcher, the researcher did not find any previous research that carried out this method in oil and gas companies, therefore researchers want to conduct further research regarding the effectiveness of this reminder method first in the health sector, so that later it will be seen whether this method can be recommended to be applied to the K3 section in oil and gas company X to increase the percentage of employee participation. In the case of filling in the hazard reporting card or not. This research was conducted by examining the results of previous studies which discussed the electronic reminder method in other fields besides K3, namely the general health sector.

Hannisa, et al. Utilization of Electronic Reminder Method on Enhancement Hazard Reporting Cards in Oil & Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

METHOD

This study used literature review with the data sources used by researchers in conducting this research are electronic databases such as Google Scholar and PubMed with the search keywords used, namely Hazard Reporting Cards, Hazard Observation Cards, Safety Observation Cards , SMS Reminder, Electronic Reminder, and Reminder by Email.

On the Google Scholar search page there are 1,697,000 search results, while on the PubMed search page there are 5,056 search results. Based on the search results obtained from the two search pages, the researcher took 8 scientific journals and / or theses on the Google Scholar page, while on the PubMed search page the researcher took 13 scientific journals and / or theses to be analyzed.

RESULTS

In this study, researchers used a total of 21 journals to be analyzed with various locations from various countries and various time ranges from the longest, from 2006 to the most recent, 2019. The background of the research locations of the 21 journals taken by researchers was mostly the United States of America (USA); 5 journals, and research in 2016 was the most widely used with a total of 5 journals.

The research designs used by the 21 journals were varies, yet the most widely used was the Randomized Control Trial (RCT) research design. The number of samples from each journal was also diverse, starting from the smallest number of 8 samples to the highest which is 87,750 samples. More details can be seen in Table 1 below:

Table 1. Table Overview of Electronic Reminder Method Journal Analysis

Researcher Name	Country	Year Issued	Research Design	Σ Sample
Adel Youssef, PhD, Hana Alharthi, PhD, Ohoud Al Khaldi, BS, Fatima Alnaimi, BS, Nujood Alsubaie, BS, dan Nada Alfariss, BS (Youssef *et al.*, 2014)	Kingdom of Saudi Arabia	2014	Randomized Control Trial (RCT)	1.499
Ulla Strandbygaard, Simon Francis Thomsen, dan Vibeke Backer (Strandbygaard, Thomsen and Backer, 2010)	Denmark	2010	Experimental	26
Ahmad Yani, Suriah, dan Nurhaedar Jafar (Yani, Suriah and Jafar, 2017)	Indonesia	2017	Quasy Experimental	106
Ismil Khairi Lubis, Agus Harjoko, dan Fatwa Sari Tetra Dewi (Lubis, Harjoko and Dewi, 2016)	Indonesia	2016	Action Research	16

Hannisa, et al. Utilization of Electronic Reminder
Method on Enhancement Hazard Reporting Cards in Oil
& Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

Researcher Name	Country	Year Issued	Research Design	Σ Sample
Adel Youssef, PhD, Hana Alharthi, PhD, Ohoud Al Khaldi, BS, Fatima Alnaimi, BS, Nujood Alsubaie, BS, dan Nada Alfariss, BS (Youssef *et al.*, 2014)	Kingdom of Saudi Arabia	2014	Randomized Control Trial (RCT)	1.499
Ulla Strandbygaard, Simon Francis Thomsen, dan Vibeke Backer (Strandbygaard, Thomsen and Backer, 2010)	Denmark	2010	Experimental	26
Ahmad Yani, Suriah, dan Nurhaedar Jafar (Yani, Suriah and Jafar, 2017)	Indonesia	2017	Quasy Experimental	106
Ismil Khairi Lubis, Agus Harjoko, dan Fatwa Sari Tetra Dewi (Lubis, Harjoko and Dewi, 2016)	Indonesia	2016	Action Research	16
Samir Patel, M.D., Laura Jacobus-Kantor, Ph.D., Lorraine Marshall, R.N., Clark Ritchie, B.A., Michelle Kaplinski, M.D., Parvinder S. Khurana, M.D., dan Richard J. Katz, M.D. (Patel *et al.*, 2013)	United States of America	2013	Experimental	50
Sarah D Fenerty, Cameron West, Scott A Davis, Sebastian G Kaplan, dan Steven R Feldman (Fenerty *et al.*, 2012)	United States of America	2012	Meta-Analysis	11
Shama Mohammed, Rachel Glennerster, dan Aamir J. Khan (Mohammed, Glennerster and Khan, 2016)	Pakistan	2016	Randomized Control Trial (RCT)	2.207

Hannisa, et al. Utilization of Electronic Reminder
Method on Enhancement Hazard Reporting Cards in Oil
& Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

Researcher Name	Country	Year Issued	Research Design	∑ Sample
Adel Youssef, PhD, Hana Alharthi, PhD, Ohoud Al Khaldi, BS, Fatima Alnaimi, BS, Nujood Alsubaie, BS, dan Nada Alfariss, BS (Youssef *et al.*, 2014)	Kingdom of Saudi Arabia	2014	Randomized Control Trial (RCT)	1.499
Ulla Strandbygaard, Simon Francis Thomsen, dan Vibeke Backer (Strandbygaard, Thomsen and Backer, 2010)	Denmark	2010	Experimental	26
Ahmad Yani, Suriah, dan Nurhaedar Jafar (Yani, Suriah and Jafar, 2017)	Indonesia	2017	Quasy Experimental	106
Ismil Khairi Lubis, Agus Harjoko, dan Fatwa Sari Tetra Dewi (Lubis, Harjoko and Dewi, 2016)	Indonesia	2016	Action Research	16
Gretchen J. Domek, Ingrid L. Contreras-Roldan, Sean T. O'Leary, Sheana Bull, Anna Furniss, Allison Kempe, dan Edwin J. Asturias (Domek *et al.*, 2016)	Guatemala	2016	Randomized Control Trial (RCT)	321
Elizabeth Koshy, Josip Car, dan Azeem Majeed (Koshy, Car and Majeed, 2008)	United Kingdom	2008	Observational and Analysis Study based on Data Collected	9.959
Georges Bediang, Beat Stoll, Nadia Elia, Jean-Louis Abena, dan Antoine Geissbuhler (Bediang *et al.*, 2018)	Cameroon	2018	Randomized Control Trial (RCT)	279

Hannisa, et al. Utilization of Electronic Reminder
Method on Enhancement Hazard Reporting Cards in Oil
& Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

Researcher Name	Country	Year Issued	Research Design	∑ Sample
Adel Youssef, PhD, Hana Alharthi, PhD, Ohoud Al Khaldi, BS, Fatima Alnaimi, BS, Nujood Alsubaie, BS, dan Nada Alfariss, BS (Youssef *et al.*, 2014)	Kingdom of Saudi Arabia	2014	Randomized Control Trial (RCT)	1.499
Ulla Strandbygaard, Simon Francis Thomsen, dan Vibeke Backer (Strandbygaard, Thomsen and Backer, 2010)	Denmark	2010	Experimental	26
Ahmad Yani, Suriah, dan Nurhaedar Jafar (Yani, Suriah and Jafar, 2017)	Indonesia	2017	Quasy Experimental	106
Ismil Khairi Lubis, Agus Harjoko, dan Fatwa Sari Tetra Dewi (Lubis, Harjoko and Dewi, 2016)	Indonesia	2016	Action Research	16
Ole D. Wolthers (Wolthers, 2019)	Denmark	2019	Experimental	2.890
Sean R Downer, John G Meara, Annette C Da Costa, dan Kannan Sethuraman (Downer *et al.*, 2006)	Australia	2006	Cohort Study	45.110
Jessica E. Haberer, Angella Musiimenta, Esther C. Atukunda, Nicholas Musinguzi, Monique A. Wyatt, Norma C. Ware, dan David R. Bangsberg (Haberer *et al.*, 2016)	South Africa	2016	Randomized Control Trial (RCT)	63
David Muller, MD, Judith Logan, MD, MS, David Dorr, MD, dan David Mosen, PhD, MPH (Muller *et al.*, 2009)	United States of America	2009	Cohort Study	2.100

Hannisa, et al. Utilization of Electronic Reminder
Method on Enhancement Hazard Reporting Cards in Oil
& Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

Researcher Name	Country	Year Issued	Research Design	Σ Sample
Adel Youssef, PhD, Hana Alharthi, PhD, Ohoud Al Khaldi, BS, Fatima Alnaimi, BS, Nujood Alsubaie, BS, dan Nada Alfariss, BS (Youssef *et al.*, 2014)	Kingdom of Saudi Arabia	2014	Randomized Control Trial (RCT)	1.499
Ulla Strandbygaard, Simon Francis Thomsen, dan Vibeke Backer (Strandbygaard, Thomsen and Backer, 2010)	Denmark	2010	Experimental	26
Ahmad Yani, Suriah, dan Nurhaedar Jafar (Yani, Suriah and Jafar, 2017)	Indonesia	2017	Quasy Experimental	106
Ismil Khairi Lubis, Agus Harjoko, dan Fatwa Sari Tetra Dewi (Lubis, Harjoko and Dewi, 2016)	Indonesia	2016	Action Research	16
Kati Anneli Kannisto, Clive E Adams, Marita Koivunen, Jouko Katajisto, dan Maritta Välimäki (Kannisto *et al.*, 2015)	Finland	2015	Cross Sectional	558
Ipek Gurol-Urganci1, Thyra de Jongh, Vlasta Vodopivec-Jamsek, Rifat Atun, dan Josip Car (Gurol-Urganci *et al.*, 2013)	United Kingdom	2013	Meta-Analysis	8
Henry H. Fischer, Susan L. Moore, Tracy L. Johnson, Rachel M. Everhart, PhD, Holly Batal, dan Arthur J. Davidson (Fischer *et al.*, 2017)	United States of America	2017	Experimental	87.750

Hannisa, et al. Utilization of Electronic Reminder
Method on Enhancement Hazard Reporting Cards in Oil
& Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

Researcher Name	Country	Year Issued	Research Design	∑ Sample
Adel Youssef, PhD, Hana Alharthi, PhD, Ohoud Al Khaldi, BS, Fatima Alnaimi, BS, Nujood Alsubaie, BS, dan Nada Alfariss, BS (Youssef *et al.*, 2014)	Kingdom of Saudi Arabia	2014	Randomized Control Trial (RCT)	1.499
Ulla Strandbygaard, Simon Francis Thomsen, dan Vibeke Backer (Strandbygaard, Thomsen and Backer, 2010)	Denmark	2010	Experimental	26
Ahmad Yani, Suriah, dan Nurhaedar Jafar (Yani, Suriah and Jafar, 2017)	Indonesia	2017	Quasy Experimental	106
Ismil Khairi Lubis, Agus Harjoko, dan Fatwa Sari Tetra Dewi (Lubis, Harjoko and Dewi, 2016)	Indonesia	2016	Action Research	16
Frank J. Schwebel dan Mary E. Larimer (Schwebel and Larimer, 2018)	United States of America	2018	Systematic Literature Review	162
Michael J. A. Reid, Andrew P. Steenhoff, James Thompson, Lesego Gabaitiri, Mark S. Cary, Katherine Steele, Susan Mayisela, Diana Dickinson, Peter Ehrenkranz, Harvey M. Friedman, dan Darren R. Linkin (Reid *et al.*, 2017)	Botswana	2017	Randomized Control Trial (RCT)	108
Ruthy McIver, Amalie Dyda, Anna M McNulty, Vickie Knight, Handan C Wand, dan Rebecca J Guy (McIver *et al.*, 2016)	Australia	2016	Experimental	704

Hannisa, et al. Utilization of Electronic Reminder Method on Enhancement Hazard Reporting Cards in Oil & Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

Researcher Name	Country	Year Issued	Research Design	Σ Sample
Adel Youssef, PhD, Hana Alharthi, PhD, Ohoud Al Khaldi, BS, Fatima Alnaimi, BS, Nujood Alsubaie, BS, dan Nada Alfariss, BS (Youssef *et al.*, 2014)	Kingdom of Saudi Arabia	2014	Randomized Control Trial (RCT)	1.499
Ulla Strandbygaard, Simon Francis Thomsen, dan Vibeke Backer (Strandbygaard, Thomsen and Backer, 2010)	Denmark	2010	Experimental	26
Ahmad Yani, Suriah, dan Nurhaedar Jafar (Yani, Suriah and Jafar, 2017)	Indonesia	2017	Quasy Experimental	106
Ismil Khairi Lubis, Agus Harjoko, dan Fatwa Sari Tetra Dewi (Lubis, Harjoko and Dewi, 2016)	Indonesia	2016	Action Research	16
Marine Zebina, Bénédicte Melot, Blandine Binachon, Rachida Ouissa, Isabelle Lamaury, dan Bruno Hoen (Zebina *et al.*, 2019)	France	2019	Prospective Comparative Study	224

Based on the results of the analysis described in Table 1, there were 2 discussion topics that became the main focus of this research: the success rate of implementing the method and the responses of the respondents regarding the methods that have been implemented. Table 2 also showed that as many as 18 out of 21 journals employ SMS as the reminder method used in their research. Details of each journal can be seen in Table 2 below:

Hannisa, et al. Utilization of Electronic Reminder
Method on Enhancement Hazard Reporting Cards in Oil
& Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

Table 2. Table Analysis Results of Electronic Reminder Method Journal

Researcher Name	Year Issued	Reminder Method	Success Rate			Respondents Response		
			Successful	Unsuccessful	N/A	Positive	Negative	N/A
Adel Youssef, PhD, Hana Alharthi, PhD, Ohoud Al Khaldi, BS, Fatima Alnaimi, BS, Nujood Alsubaie, BS, dan Nada Alfariss, BS (Youssef *et al.*, 2014)	2014	SMS Reminder	√			√		
Ulla Strandbygaard, Simon Francis Thomsen, dan Vibeke Backer (Strandbygaard, Thomsen and Backer, 2010)	2010	SMS Reminder	√			√		
Ahmad Yani, Suriah, dan Nurhaedar Jafar (Yani, Suriah and Jafar, 2017)	2017	SMS Reminder	√					√
Ismil Khairi Lubis, Agus Harjoko, dan Fatwa Sari Tetra Dewi (Lubis, Harjoko and Dewi, 2016)	2016	SMS Reminder	√					√
Samir Patel, M.D., Laura Jacobus-Kantor, Ph.D., Lorraine Marshall, R.N., Clark Ritchie, B.A., Michelle Kaplinski, M.D., Parvinder S. Khurana, M.D., dan Richard J. Katz, M.D. (Patel *et al.*, 2013)	2013	Medication Reminder Software on Mobile Phone	√			√		
Sarah D Fenerty, Cameron West, Scott A Davis, Sebastian G Kaplan, dan Steven R Feldman (Fenerty *et al.*, 2012)	2012	Reminder Phone Calls, Text, etc	√					√
Shama Mohammed, Rachel Glennerster, dan Aamir J. Khan (Mohammed, Glennerster and Khan, 2016)	2016	SMS Reminder		√				√

Hannisa, et al. Utilization of Electronic Reminder
Method on Enhancement Hazard Reporting Cards in Oil
& Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

Researcher Name	Year Issued	Reminder Method	Success Rate			Respondents Response		
			Successful	Unsuccessful	N/A	Positive	Negative	N/A
Gretchen J. Domek, Ingrid L. Contreras-Roldan, Sean T. O'Leary, Sheana Bull, Anna Furniss, Allison Kempe, dan Edwin J. Asturias (Domek *et al.*, 2016)	2016	SMS Reminder	√					√
Elizabeth Koshy, Josip Car, dan Azeem Majeed (Koshy, Car and Majeed, 2008)	2008	SMS Reminder	√					√
Georges Bediang, Beat Stoll, Nadia Elia, Jean-Louis Abena, dan Antoine Geissbuhler (Bediang *et al.*, 2018)	2018	SMS Reminder		√				√
Ole D. Wolthers (Wolthers, 2019)	2019	SMS Reminder	√					√
Sean R Downer, John G Meara, Annette C Da Costa, dan Kannan Sethuraman (Downer *et al.*, 2006)	2006	SMS Reminder	√					√
Jessica E. Haberer, Angella Musiimenta, Esther C. Atukunda, Nicholas Musinguzi, Monique A. Wyatt, Norma C. Ware, dan David R. Bangsberg (Haberer *et al.*, 2016)	2016	SMS Reminder	√					√
David Muller, MD, Judith Logan, MD, MS, David Dorr, MD, dan David Mosen, PhD, MPH (Muller *et al.*, 2009)	2009	Email Reminder	√					√

Hannisa, et al. Utilization of Electronic Reminder
Method on Enhancement Hazard Reporting Cards in Oil
& Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

Researcher Name	Year Issued	Reminder Method	Success Rate			Respondents Response		
			Successful	Unsuccessful	N/A	Positive	Negative	N/A
Ipek Gurol-Urganci1, Thyra de Jongh, Vlasta Vodopivec-Jamsek, Rifat Atun, dan Josip Car (Gurol-Urganci *et al.*, 2013)	2013	SMS Reminder	√					√
Kati Anneli Kannisto, Clive E Adams, Marita Koivunen, Jouko Katajisto, dan Maritta Välimäki (Kannisto *et al.*, 2015)	2015	SMS Reminder			√	√		
Henry H. Fischer, Susan L. Moore, Tracy L. Johnson, Rachel M. Everhart, PhD, Holly Batal, dan Arthur J. Davidson (Fischer *et al.*, 2017)	2017	SMS Reminder	√			√		
Frank J. Schwebel dan Mary E. Larimer (Schwebel and Larimer, 2018)	2018	SMS Reminder	√					√
Michael J. A. Reid, Andrew P. Steenhoff, James Thompson, Lesego Gabaitiri, Mark S. Cary, Katherine Steele, Susan Mayisela, Diana Dickinson, Peter Ehrenkranz, Harvey M. Friedman, dan Darren R. Linkin (Reid *et al.*, 2017)	2017	SMS Reminder		√				√
Ruthy McIver, Amalie Dyda, Anna M McNulty, Vickie Knight, Handan C Wand, dan Rebecca J Guy (McIver *et al.*, 2016)	2016	SMS Reminder		√				√
Marine Zebina, Bénédicte Melot, Blandine Binachon, Rachida Ouissa, Isabelle Lamaury, dan Bruno Hoen (Zebina *et al.*, 2019)	2019	SMS Reminder		√		√		

Hannisa, et al. Utilization of Electronic Reminder Method on Enhancement Hazard Reporting Cards in Oil & Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

DISCUSSION
Success Rate of Method Implementation

Based on the analysis of 21 journals, 15 journals stated that the reminder method used in their research was successfully applied or had a positive outcome, while some journals stated that the reminder method was not successful in their research, and there were also journals that did not mention about the success rate of the reminder method in his research. The success rate of the reminder method for each study also varies, for instance, Strandbygaard, Thomsen and Backer (2010) examined that their research from week 4 to week 12, the percentage of average adherence level in the intervention group increased. Besides that, Lubis, Harjoko and Dewi (2016) revealed that there was a fairly high increase in patient visits to the clinic after receiving a reminder. However, the highest percentage of successful implementation of the reminder method was in the research of Downer *et al.* (2006) which reached almost perfect..

There were also some studies whose the final results were successful but only on a few variables and not completely successful. As in the research of Yani, Suriah and Jafar (2017), there was only an increase in the knowledge, attitude, and action variables, whereas for the motivation variable there was also an increase but it was not significant. In the research of Youssef *et al.* (2014) were not much different, from the 3 groups sampled, only 2 groups had significant changes between before and after the implementation of this method.

As previously mentioned, there were several journals that in implementing this reminder method have unsuccessful end results. As in the research of Zebina et al. (2019) which stated that there was no significant difference between the intervention group and the control group. This also occurred in the research of McIver et al. (2016) which in their research results stated that the intervention group had a lower percentage compared to the control group who did not receive reminders.

Based on the analysis, in terms of the success rate of implementing this electronic reminder method, even though there were several journals that have unsuccessful final results or have failed in implementing this method, the rest have experienced success. Thus, the researchers concluded that in terms

of the success rate of implementing this electronic reminder method, it has the possibility to be successful, although the percentage of the success rate cannot be ascertained in detail how much it is because each journal has various success rates.

Responses from Respondents Regarding the Methods that Have Been Implemented

Table 2 showed that there were several journals that stated that respondents have a positive response to the application of this reminder method. The percentage of positive responses from respondents varies in each journal, starting from the lowest, such as in Kannisto et al. (2015)'s research which was quite high but not more than 50% positive responses, up to the highest percentage of positive responses in the study of Youssef et al. (2014) which was almost perfect.

Respondents gave positive responses about this method in several researches, such as for example respondents in research by Zebina et al. (2019) which stated that more than some patients in the group that received reminders felt that the intervention made them more likely to attend and felt happy if they continued to receive reminders in the future, while the majority of respondents in the control group (the group that did not receive reminders) stated that they hope to receive reminders too. In addition, most of the respondents in one research stated that the use of this reminder method can help them remember their appointments (Youssef et al., 2014). In another study, it was stated that most of the respondents thought that this reminder method was easy to use and most of the respondents also felt that SMS did not cause harm (Kannisto *et al.*, 2015).

However, in one of the researches, the respondent thought that the time for sending this reminder had to be appropriate. Because respondents feel that the time for receiving reminders at 10 am was not suitable. Most of the participants in the intervention group paid attention to the reminder every day at the time of receipt, but stopped paying attention after a few weeks, suggesting that over time the reminder function will be compared to a simple alarm clock on a cell phone (Strandbygaard, Thomsen and Backer, 2010). Based on some of the things that have been previously mentioned regarding the response

Hannisa, et al. Utilization of Electronic Reminder Method on Enhancement Hazard Reporting Cards in Oil & Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

from respondents who were still negative, then the use of this reminder method needs further research and testing. Hence, this method can be more accepted by respondents, thus later it can have a high success rate compared to existing research.

Based on the analysis of several journals above, regarding the responses from respondents regarding this electronic reminder method, all of them stated that they received more positive responses from respondents than negative responses. The researcher concluded that the implementation of the electronic reminder method was likely to be accepted by respondents, although it does not rule out that there were still respondents who have negative views or feel disadvantaged from the implementation of this electronic reminder method.

CONCLUSION

Based on this research, 15 researches showed that the electronic reminder method was successful in the health sector. Although some journals have had success they did not cover all variables. Besides that, there were 6 journals which stated that the responses given by respondents to the implementation of this method are positive. Researchers argued that electronic reminder methods such as email were more effective and efficient. According to the research, this method was considered effective since it has a high success rate and also got a positive response from respondents. Therefore, this method can be recommended to conduct a trial first in the OHS sector in oil and gas companies to increase the number of hazard reporting cards in the company.

SUGGESTION

Suggestions from researchers are as follows: conduct further research on reminders using email, as well as conduct trials directly into the K3 field in oil and gas companies to discover whether the use of the reminder method can be successful in increasing employee participation rates in filling out hazard reporting cards or not.

REFERENCES

Bediang, G. *et al.* 2018. SMS Reminders to Improve Adherence and Cure of Tuberculosis Patients in Cameroon (TB-SMS Cameroon): A Randomised Controlled Trial. *BMC Public Health*. BMC Public Health, 18(1), pp. 1–14. doi: 10.1186/s12889-018-5502-x.

BUMN. 2016. *Pertamina Terbaik Eksplorasi 2016 Versi SKK Migas*. Available at: http://www.bumn.go.id/pertamina/berita/11191 (Accessed: 1 March 2020).

Domek, G. J. *et al.* 2016. SMS Text Message Reminders to Improve Infant Vaccination Coverage in Guatemala: A Pilot Randomized Controlled Trial. *Vaccine*. Elsevier Ltd, 34(21), pp. 2437–2443. doi: 10.1016/j.vaccine.2016.03.065.

Downer, S. R. *et al.* 2006. SMS Text Messaging Improves Outpatient Attendance. *Australian health review : a publication of the Australian Hospital Association*, 30(3), pp. 389–396. doi: 10.1071/AH060389.

Fenerty, S. D. *et al.* 2012. The Effect of Reminder Systems on Patients' Adherence to Treatment. *Patient Preference and Adherence*, 6, pp. 127–135. doi: 10.2147/PPA.S26314.

Fischer, H. H. *et al.* 2017. Appointment Reminders by Text Message in a Safety Net Health Care System: A Pragmatic Investigation. *Generating Evidence & Methods*, 5(1), pp. 1–8.

Gurol-Urganci, I. *et al.* 2013. Mobile Phone Messaging Reminders for Attendance at Healthcare Appointments. *Cochrane Database of Systematic Reviews*, 2017(12). doi: 10.1002/14651858.CD007458.pub3.

Haberer, J. E. *et al.* 2016. Short Message Service (SMS) Reminders and Real-Time Adherence Monitoring Improve Antiretroviral Therapy Adherence in Rural Uganda. *AIDS*, 30(8), pp. 1295–1299. doi: 10.1097/QAD.0000000000001021.

Kannisto, K. A. *et al.* 2015. Feedback on SMS Reminders to Encourage Adherence Among Patients Taking Antipsychotic Medication: A Cross-Sectional Survey Nested Within a Randomised Trial. *BMJ Open*, 5(11), pp. 1–10. doi: 10.1136/bmjopen-2015-008574.

Koshy, E., Car, J. and Majeed, A. 2008. Effectiveness of Mobile-Phone Short Message Service (SMS) Reminders for Ophthalmology Outpatient Appointments: Observational Study.

Hannisa, et al. Utilization of Electronic Reminder Method on Enhancement Hazard Reporting Cards in Oil & Gas Company X

JPH RECODE March 2021; 4 (2): 107-121
http://e-journal.unair.ac.id/JPHRECODE

BMC Ophthalmology, 8, pp. 1–6. doi: 10.1186/1471-2415-8-9.

Lubis, I. K., Harjoko, A. and Dewi, F. S. T. 2016. Desain Sistem Pengingat Berbasis SMS untuk Meningkatkan Kepatuhan Pengobatan Pasien Diabetes Melitus. *Journal of Information System for Public Health*, 1(1), pp. 3–9.

McIver, R. *et al.* 2016. Text Message Reminders Do Not Improve Hepatitis B Vaccination Rates in an Australian Sexual Health Setting. *Journal of the American Medical Informatics Association*, 23, pp. e88–e92. doi: 10.1093/jamia/ocv145.

Mohammed, S., Glennerster, R. and Khan, A. J. 2016. Impact of a Daily SMS Medication Reminder System on Tuberculosis Treatment Outcomes: A Randomized Controlled Trial. *PLoS ONE*, 11(11), pp. 1–13. doi: 10.1371/journal.pone.0162944.

Muller, D. *et al.* 2009. The Effectiveness of a Secure Email Reminder System for Colorectal Cancer Screening. *AMIA ... Annual Symposium proceedings*, pp. 457–461.

Occupational Health and Safety Management Systems (OHSAS). 2007. Occupational Health and Safety Management Systems 18001. pp. 1–19.

Patel, S. *et al.* 2013. Mobilizing Your Medications: An Automated Medication Reminder Application for Mobile Phones and Hypertension Medication Adherence in a High-Risk Urban Population. *Journal of Diabetes Science and Technology*, 7(3), pp. 630–639. doi: 10.1177/193229681300700307.

Reid, M. J. A. *et al.* 2017. Evaluation of the Effect of Cellular SMS Reminders on Consistency of Antiretroviral Therapy Pharmacy Pickups in HIV- Infected Adults in Botswana: A Randomized Controlled Trial. *Health Psychol Behav Med.*, 5(1), pp. 101–109. doi: 10.1016/j.physbeh.2017.03.040.

Schwebel, F. J. and Larimer, M. E. 2018. Using Text Message Reminders in Health Care Services: A Narrative Literature Review. *Internet Interventions*. Elsevier, 13, pp. 82–104. doi: 10.1016/j.invent.2018.06.002.

Strandbygaard, U., Thomsen, S. F. and Backer, V. 2010. A Daily SMS Reminder Increases Adherence to Asthma Treatment: A Three-Month Follow-Up Study. *Respiratory Medicine*. Elsevier Ltd, 104(2), pp. 166–171. doi: 10.1016/j.rmed.2009.10.003.

Undang Undang Republik Indonesia No 22 Tahun 2001. 2001. *Undang-Undang Republik Indonesia Nomor 22 Tahun 2001 Tentang Minyak dan Gas Bumi*.

Wolthers, O. D. 2019. Differential Effects of Text Message Reminders on Non-Attendance and Late Cancellations in a Paediatric Outpatient Clinic. *Danish Medical Journal*, 66(11), pp. 1–3.

Yani, A., Suriah and Jafar, N. 2017. Pengaruh SMS Reminder Terhadap Perilaku Ibu Hamil Mengonsumsi Tablet Fe. *Media Kesehatan Masyarakat Indonesia*, 13(1), pp. 12–20. doi: 10.30597/mkmi.v13i1.1578.

Youssef, A. *et al.* 2014. Effectiveness of Text Message Reminders on Nonattendance of Outpatient Clinic Appointments in Three Different Specialties: A Randomized Controlled Trial in a Saudi Hospital. *Journal of Taibah University Medical Sciences*. Taibah University, 9(1), pp. 23–29. doi: 10.1016/j.jtumed.2013.10.001.

Zebina, M. *et al.* 2019. Impact of an SMS Reminder Service on Outpatient Clinic Attendance Rates By Patients with HIV Followed-Up at Pointe-À-Pitre University Hospital. *Patient Preference and Adherence*, 13, pp. 215–221. doi: 10.2147/PPA.S182186.