Short Communication

Free vaccinations and clinical history takings of the vaccine recipients: reliable or not?

Wiwanitkit V[1*], Yasri S[2]

[1]Wiwanitkit House, Bangkhae, Bangkok, Thailand.
[2]KMT Primary Care Center, Bangkok, Thailand.

ABSTRACT

Vaccination is a useful primary prevention against infectious diseases. In several countries, many infections are endemic and vaccines are usually provided free of charge by the local governments to the people. For vaccination, the assessment for the contraindication which is usually based on clinical history taking, is the primary requirement. Here, the experiences on a recent situation of free influenza vaccination is discussed. This review was based on the clinical history of 200 local patients who had attended a medical center in Bangkok, Thailand, during June 2018, asking for free influenza vaccination according to the local Thai public health policies. According to this report, it is observable that the clinical history taking is usually unreliable.

KEYWORDS: Reliable, Vaccine, Recipient.

INTRODUCTION

Prevention of the communicable infectious diseases is usually the main activity of the national public health authorities in most countries. According to the preventive medicine concept, the primary prevention is preferable. Of several primary prevention methods, giving vaccine aimed at an infectious disease prophylaxis is proven as a useful primary prevention technique. Vaccination is the useful prevention measure against the endemic infectious diseases [1]. At present, there are many vaccines against several communicable infectious diseases. Such vaccines are available and used in any settings in order to control the infectious diseases that are locally important public health problems. As a macro-scale public health intervention, the management of mass vaccinations is usually an important topic for the governmental public health organizations. In several countries, many vaccines are given to the local people by the local governments without cost. For vaccination, the basic assessment for the contraindication is usually achieved by clinical history taking. Clinical history taking is the basic clinical practice in medicine; nevertheless, the reliability of the clinical history given by the patients is sometimes considered problematic and might result in incorrect diagnosis [2]. In the developing countries where the local people have low education levels, incorrect data might be given. A good example is often observed as unreliable histories of diet control in diabetic care units which is a common problem in clinical practice and might result in unwanted complications [3].

The pre-vaccination consultation about the indication and contraindication of a vaccine is an important recommended process [4]. During this process, the history taking is necessary. For the vaccination, the safety of the vaccine recipient is an important issue and the screening for indication and contraindication by clinical history taking might be sometimes problematic. Here, the experiences from a situation of free influenza vaccination in June 2018 are discussed during which the clinical history of 200 local patients were taken who had attended a medical center in Bangkok to receive free influenza vaccination, according to local Thai public health policies. Based on these observations, the clinical history takings appear to be often unreliable.

MATERIALS and METHODS

This report is based on clinical observations. The clinical histories of 200 local patients who had attended a medical center in Bangkok during June 2018 were assessed. The patients had requested for free influenza vaccination according to a 1-month period vaccination campaign of the local Thai public health policies. All people were firstly screened by the criteria for receiving free vaccination such as age (65), according to the public notification distributed via social mass media of the local Thai Ministry of Public Health. All participants were within the focused age groups. According to the local policies of the Ministry, the vaccination was assigned freely to people suffering from important underlying diseases including diabetes as well as cardiovascular, renal and

***Corresponding Author:** Viroj Wiwanitkit, Wiwanitkit House, Bangkhae, Bangkok, Thailand.
Email: wviroj@yahoo.com
Tel/Fax: 662- 4132436

[Downloaded from vacres.pasteur.ac.ir on 2024-03-29]

[DOI: 10.29252/vacres.5.1.1]

cerebrovascular diseases. Each patient was asked for clinical history in regards to personal illnesses and food/drug/vaccine allergy. A comparison was conducted between the clinical record of each patient in the Out Patient Department (OPD) records and the answers to the clinical history takings which were further analyzed and interpreted. Moreover, the diagnostic property of clinical history takings as screening test versus the reference method and clinical record data were calculated. According to the diagnostic test statistics principle, the sensitivity and the specificity were calculated. To calculate the specificity and the sensitivity, the basic statistical analyses according to the method for evaluation of the diagnostic test were used [5]. Briefly, the sensitivity was evaluated as the percentage of accurate positive diagnoses per overall positive diagnoses and the specificity was assessed as the percentage of accurate negative diagnoses per overall negative diagnoses.

RESULTS

According to this study on overall 200 patients, there were records on personal illness regarding the important underlying diseases including diabetes, cardiovascular disease, renal disease and cerebrovascular disease in 158 cases and there was no record on food/drug/vaccine allergy. However, from the clinical history takings, there was a discordance regarding the patients' answers (Table 1 and Table 2). For the personal illnesses, the clinical history taking had a sensitivity and a specificity equal to 36.7 % and 100 %, respectively. For food/drug/vaccine allergy, the clinical history taking showed a sensitivity and a specificity equal to 100 % and 88 %, respectively.

Table 1. Relationship between the patients' answers and their clinical records, regarding their personal illnesses.

Results from clinical history taking	Results from clinical record data	
	Have	Not have
Have	58	0
Not have	100	42

*in Table 1, the gold standard is hereby assigned as clinical record data and the evaluated diagnostic test is clinical history taking. In this Table, sensitivity is hereby equal to "[58/(100+58)] x 100" and specificity is equal to "[42/(42 + 0)] x 100".

Table 2. Relationship between the patients' answers and their clinical records, regarding food/drug/vaccine allergies.

Results from clinical history taking	Results from clinical record data	
	Have	Not have
Have	0	24
Not have	0	176

*in Table 2, the gold standard is hereby was assigned to the clinical record data and the evaluated diagnostic test was the clinical history takings. In this Table, the sensitivity is hereby equal to "[0/(0+0)] x 100" and the specificity is equal to "[24/(24 + 176)] x 100".

DISCUSSION

According to this observation, there is an interesting high rate of discrepancy between the information in medical clinical records of the patients and their answers to the questions during their history takings. It seems that the answers to the questions regarding the personal illnesses usually results in false negatives and the answers to the questions regarding food/drug/vaccine allergies usually results in false positives. An in-depth interviewing session was done for cases who gave discrepant results. Of interest, all patients who gave false negative answers to a question regarding their personal illnesses mentioned that they feared of not getting free vaccination, therefore, they told incorrect data. On the other hand, all patients who gave the false positive answers to questions regarding food/drug/vaccine allergies, gave the reason that they intentionally expressed they had underlying allergy so they could get a free vaccination. This is a major scientific evidence on this issue regarding the unwanted patients' behavior regarding the clinical information giving to the attending physician for vaccination.

Considering the details on the promoting information regarding free influenza vaccination giving by the local Ministry of Public Health, almost all contents mentioned free of charge vaccination for the old patients but had no specific data regarding the criteria of additional indications and contraindication for enrollment into the free vaccination program. When something is free, the local people usually are willing to get it and they might tell a lie in order to get their desired service. This might be a big problem in screening for indication and contraindication for mass vaccinations. If there are no proper previous records, the problem of obtaining incorrect information from the clinical history takings can be expected and it might lead to serious clinical problems with respect to the vaccination. There is no doubt that some of adverse side-effects of a vaccine observed in the developing countries might be due to disguising of the clinical information by the patients.

In Thailand, the focus is on promoting the availability of free influenza vaccination [6]; however, there is no additional concern regarding the way to control the safety use of the vaccine. In fact, the unreliability of the clinical history regarding vaccination is usually problematic. In a previous report from the USA, many patients have falsely reported their tetanus immunization status [7]. Despite the information from the reliable sources such as medical students or medical personnel, the clinical history of vaccination is still limited for further referencing to the actual immunological status [8]. Wicker et al. have mentioned that "medical history alone is not a reliable screening tool for immunity against the vaccine-preventable diseases studied [8]". Nevertheless, the previous report of Wicker et al. is not on Thai situation and not on influenza vaccine. The present report shows new findings and observations while the details of the reasons for non-reliability are also presented in the current report. Many patients tend to tell a lie in order to get a free vaccination and this reflects the needs for health education against the importance of correct medical history giving.

The background and the social culture of any settings have to be recognized during promotion of a vaccination program. In screening for indication and contraindication, the awareness of the disguised data given by the patients should be recognized by the public health practitioners. There should also be a good system such as double check – recheck questionnaire for screening such processes. In conclusion, a good clinical history taking with repeated questioning and educational sessions combined with reviewing clinical records should be the basic requirement for primary screening for vaccination recipients in any primary care center.

[Downloaded from vacres.pasteur.ac.ir on 2024-03-29]

[DOI: 10.29252/vacres.5.1.1]

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

REFERENCES

1. Fast MV. Immunization: primary prevention par excellence. Can Fam Physician. 1987;33:139-42.
2. Clark BW, Derakhshan A, Desai SV. Diagnostic Errors and the Bedside Clinical Examination. Med Clin North Am. 2018;102(3):453-64. doi:10.1016/j.mcna.2017.12.007.
3. Wiwanitkit V. Metformin high dosage and bleeding episode: A clinical case study. Indian J Endocrinol Metab. 2011;15(2):132-3. doi:10.4103/2230-8210.81947.
4. Opri R, Zanoni G, Caffarelli C, Bottau P, Caimmi S, Crisafulli G et al. True and false contraindications to vaccines. Allergol Immunopathol (Madr). 2018;46(1):99-104. doi:10.1016/j.aller.2017.02.003.
5. Trevethan R. Sensitivity, Specificity, and Predictive Values: Foundations, Pliabilities, and Pitfalls in Research and Practice. Front Public Health. 2017;5:307. doi:10.3389/fpubh.2017.00307.
6. Praphasiri P, Ditsungneon D, Greenbaum A, Dawood FS, Yoocharoen P, Stone DM et al. Do Thai Physicians Recommend Seasonal Influenza Vaccines to Pregnant Women? A Cross-Sectional Survey of Physicians' Perspectives and Practices in Thailand. Plos One. 2017;12(1). doi:ARTN e016922110.1371/journal.pone.0169221.
7. Gindi M, Oravitz P, Sexton R, Shpak M, Eisenhart A. Unreliability of reported tetanus vaccination histories. Am J Emerg Med. 2005;23(2):120-2.
8. Wicker S, Allwinn R, Gottschalk R, Rabenau HF. Reliability of medical students' vaccination histories for immunisable diseases. BMC Public Health. 2008;8:121. doi:10.1186/1471-2458-8-121.

[Downloaded from vacres.pasteur.ac.ir on 2024-03-29]

[DOI: 10.29252/vacres.5.1.1]