

ORIGINAL ARTICLE

Evaluation of Health Worker's Knowledge on Early Detection and Prevention of Allergic Disease and Skin and Nose Health in Children

Cahya Dewi Satria¹, Sumadiono¹, Putu Lusy Indrawati², Retno Danarti³, Niken Trisnowati³, Lily Chandra¹

¹ Department of Child Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, 55281, Yogyakarta, Indonesia

² Departement of Otorhinolaryngology – Head and Neck Surgery, Faculty of Medicine, Public Health and Nursing Universitas Gadjah Mada, 55281, Yogyakarta, Indonesia

³ Departement of Dermatovenerology Faculty of Medicine, Public Health and Nursing Universitas Gadjah Mada, 55281, Yogyakarta, Indonesia

ABSTRACT

Introduction: Allergy prevalence in Indonesia remains unknown. Allergy management in primary health care (PHC) is often unsatisfactory. Insufficient training and education about allergy at the undergraduate and professional levels are found as one of the contributing factors. This study aimed to evaluate the level of knowledge enhancement after participating in allergy training among health professionals at PHC in D.I. Yogyakarta. **Methods:** This is a cross-sectional study that includes PHC professionals from Lendah II PHC and other health facilities in Yogyakarta. The training was conducted online in December 2020 due to the COVID-19 pandemic. Trainers include pediatric allergy immunologists, an otolaryngologist specialized in rhinology, and pediatric dermatologists. **Results:** A total of 40 participants were enrolled in this study, wherein 31 participants had completed training about allergy in children and done both pre-test and post-test. The instrument used was an allergy-based questionnaire, which consisted of 20 items. A significant difference was found among health care professionals in PHC about allergy in children at pre-test and post-test (23.06 ± 18.9 , $p = 0.000$). Significant knowledge enhancement was further found different between general practitioners and midwives ($p = 0.04$). Participation in allergy training was found as the most contributing factor in knowledge enhancement among trainees ($p < 0.001$, $R^2 = 0.537$). **Conclusion:** This study indicates the need for improvement in PHC professional competency in the care of patients with allergies. Allergy-focused training serves as one of the effective ways to enhance PHC professional competencies.

Keywords: Primary health care, Allergy training, Knowledge enhancement

Corresponding Author:

Cahya Dewi Satria, MSc
Email: cahyads@ugm.ac.id
Tel: +62 274 560 300

INTRODUCTION

Allergy disease is a non-communicable disease with increasing prevalence over these past 10 years (1). Globally, the prevalence of allergy disease reaches 20%–30% of the population with the highest burden that is suffered by the children (1,2). Allergy prevalence in Indonesia remains unknown since allergy diseases have not been the major health concern for our nation (3). Primary health care (PHC) is the first health service that contacts allergy cases in the community (4,5). The general practitioner is expected to diagnose, provide treatment, and make a referral for further examination and treatment (6). However, pediatric allergic cases are

still specialist-centered health care (7). Health workers in PHC often face difficulty in diagnosing allergy disease (8). This might be caused by a lack of training or knowledge of allergy diseases at the undergraduate and professional levels in PHC professionals. Additionally, this results in unnecessary referrals of mild to moderate allergy disease to a specialist (9). Furthermore, the increasing number of allergy cases in the community with higher complexity makes the diagnosis becomes more difficult for general practitioners (10). Thus, inadequate management of allergy in PHC can impact the patient's quality of life, especially in the pediatric population (11). One of the efforts in optimizing PHC's role in allergy disease management is to increase the awareness and knowledge of health professionals. Health professional competency improvement can be achieved by providing training and preparing guidelines for allergy management in PHC (2,5,12). In addition, periodical knowledge evaluation is also important to

help the continuity of patient care in PHC (12,13).

This study aimed to evaluate the level of allergy knowledge among health workers in PHC in D.I Yogyakarta Province. The evaluation was based on the mean difference of pre- and post-training test value after the training with the topic about allergy in children (general allergy, food allergy, anaphylaxis reaction, allergic rhinitis, and atopic dermatitis). The instrument used was an allergy-based questionnaire, which consisted of 20 items. This training was expected to improve the awareness and knowledge of PHC health workers in dealing with pediatric allergy cases in the community.

MATERIALS AND METHODS

Subjects

This study was a cross-sectional study, conducted using a questionnaire pre- and post-test. The training with the topic of allergy in children was held online in 1 day that was divided into three sessions due to coronavirus disease 2019 (COVID-19) pandemic. A questionnaire containing questions about the training topic was given before the participants took part in the training sessions. By the end of the training, participants were asked to fill out the same questionnaire again. Mean difference value of pre- and post-test training questionnaire were then analyzed. Approval and ethical clearance were obtained from the Medical and Health Research Ethics Committee of Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada with Reference No: KE-FK-0142-EC-2021.

The target of this study was health professionals in PHC in D.I. Yogyakarta province. The main target was health professionals in Lendah II Primary Health Center, Lendah, Kulon Progo. Lendah II PHC was the main PHC facility in Desa Batik Sehat Ramah Anak. This village is one of the fostered villages of the Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada. A purposive sampling method was used. The inclusion criteria of this study include health workers from health facilities who were willing to take part in this training and complete the pre- and post-tests.

Intervention: Training with Topic Allergy in Children

Due to the COVID-19 pandemic, training was held online (webinar) in 1 day that was divided into three sessions. Speakers of this training include the research team themselves, who were two pediatric allergy immunologists, two pediatric dermatologists, and one otorhinolaryngologist who specializes in rhinology. Materials included 1) food allergy, primary prevention, and early detection of allergy in children; 2) atopic dermatitis and skin health; and 3) allergic rhinitis and nose health. The study materials were prepared in the form of videos, presentations, and pocketbooks, which were then distributed to participants. Pocketbooks were

distributed after the completion of training and were used by PHC professionals in daily practice. The training preparation took place in July 2020 and was conducted on December 8, 2020.

Questionnaire

Before the training commenced, participants were asked to fill out a pre-test questionnaire. The questionnaire was given via a link, which could be accessed by participants. Participants were asked to fill in their identity, profession, origin of institution, and then answer some training-related questions. After training completion, they were asked to fill a post-test questionnaire with the same questions as the pre-test, consisting of 20 multiple choice questions with four answer options. This questionnaire consisted of 10 questions related to general allergy-related topics, as well as food allergy, early detection, and primary prevention of allergy in children, 5 questions related to allergic rhinitis and children's nose health, and 5 questions related to atopic dermatitis and children's skin health. These questions were prepared following the training material.

Statistical Analysis

Data of pre- and post-test values are presented as mean \pm standard deviation (mean \pm SD). The Wilcoxon test was used to analyze the relationship between increased pre- and post-test values. Further analysis was used to evaluate the difference in the mean score of pre- and post-test of each group based on the baseline characteristic data of participants. Univariate analysis of independent sample T-test and analysis of variance comparative test was used. The data of basic characteristics along with responses from each question category were presented as descriptive data (frequency table). Multivariate analysis of linear regression was performed to determine the independent contributing factor, which contributes to knowledge enhancement following the training.

RESULTS

Sociodemographic Characteristics

A total of 40 health workers were registered and attended the online training via Zoom application. Of 40 registered health workers, 9 were excluded for not completing the pre- or post-test (Fig. 1). The baseline characteristic of participating health workers is presented in Table I. All 31 participants were health workers who were actively working (medicine practicing), wherein 21 (67.7%) came from PHC, 6 (19.3%) were residents of the Pediatric Department of Faculty of Medicine UGM/ Dr. Sardjito Hospital and 4 (12.9%) were specialists.

Evaluation of Knowledge Improvement of Allergic Disease, Skin Health, and Nose Health in Children

The Shapiro-Wilk normality test was used for the normality test of the pre- and post-test values. The pre-test value showed normally distributed data ($p = 0.2$, $p > 0.05$), whereas the post-test value data showed not

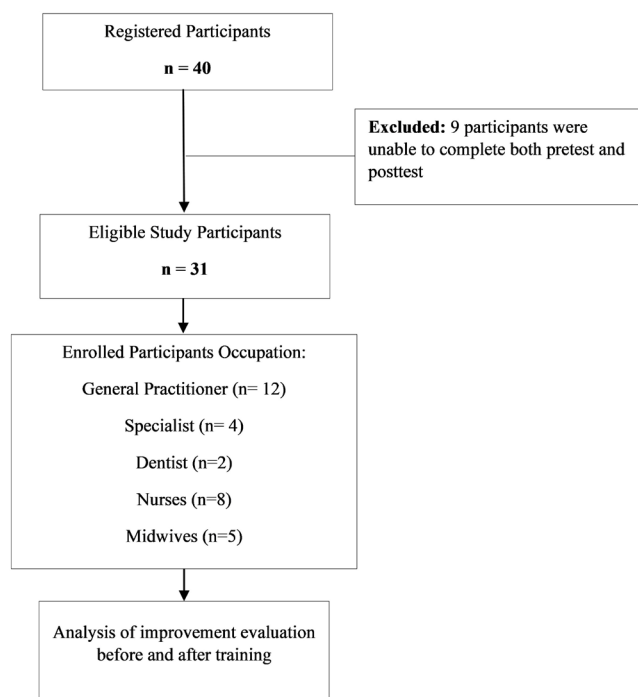


Figure 1: Subject Recruitment Flow. From all of 40 registered health workers, 9 were excluded for not completing the pre- or post-tests. A total of 31 health workers completed the training. Most trainees are general practitioners, nurses, and midwives.

Table I: Subject Characteristic

Characteristic	Participants (n=31)
Sex	
Female	26 (84%)
Age	
21-30 years	15 (37.5%)
31-40 years	9 (22.5%)
41-50 years	9 (22.5%)
51-60 years	5 (12.5%)
>60 years	2 (5%)
Profession	
General practitioners	12 (38.7%)
Specialists	4 (12.9%)
Dentists	2 (6.5%)
Nurses	5 (16.1%)
Midwives	8 (25.8%)

normally distributed data ($p = 0.000$, $p < 0.05$). The evaluation of knowledge of health workers of the training-related topic was analyzed using the Wilcoxon test. Knowledge improvement of participants before and after attending training has improved, which was statistically significant with $p = 0.000$ ($p < 0.05$). The knowledge improvement could be seen from the increased pre- and post-test values of training participants with a mean of 23.06 ± 18.9 .

Correlation of Participants Training Characteristics and Knowledge Enhancement Evaluation

Further analysis between the characteristics of the trainees and knowledge enhancement evaluation was carried out. The evaluation of knowledge enhancement was presented as numeric data, namely the average (mean \pm SD). The characteristic of training participants,

such as sex and profession, was presented as categorical data. The age of training participants was presented as numerical data. The Shapiro–Wilk normality test of knowledge improvement data was normally distributed with p -value = 0.2 ($p > 0.05$).

The correlation between the participants’ age and knowledge improvement evaluation was analyzed using the Pearson Correlation Test. It was concluded there was no significant correlation between the participants’ age and knowledge improvement ($p > 0.05$). Univariate analysis showed a significant difference in knowledge improvement based on profession category (groups of general practitioner, specialist, dentist, nurse, and midwife) with p -value = 0.032 (Table II). Furthermore, posthoc Bonferroni analysis of knowledge improvement was conducted to know the difference between professional groups, which showed a significant knowledge improvement in the general practitioner and midwife group ($p = 0.04$).

Table II: Knowledge improvement based on sex and profession.

Variable	Knowledge Improvement (Mean \pm SD)	P value
Sex		
Female	24 \pm 19.6	0.52**
Male	18 \pm 15.2	
Profession		
General Practitioner	16.8 \pm 10.8	0.032***
Specialist	15 \pm 21.2	
Dentist	7.5 \pm 24.7	
Nurse	23 \pm 20.8	
Midwife	40 \pm 20.35	

Independent T-Test *One-way ANOVA

Evaluation of Independent Factors Contributing to Knowledge Enhancement

Multivariate analysis was performed to determine the independent factors that contributed to knowledge enhancement after training. Based on the bivariate analysis results, further analysis to determine the most contributing factors in knowledge enhancement is the intervention (the allergy-focused training) and the professional factor. Table III showed that the intervention itself is the most contributing factor in knowledge enhancement on allergy-related topics. Participation in the allergy-focused training significantly contributed to knowledge enhancement ($p < 0.001$) with a regression coefficient of -0.725 . The negative value of the regression coefficient indicates an increased knowledge in trainees with a low initial score, which increased after participating in allergy-focused training.

Table III: Multivariate Analysis on Contributing Factors in Knowledge Enhancement After Training

	B	Std Error	P value	95% CI	R square
Constant	69.650	14.385	0.000	40.184 - 99.116	
Intervention	-0.725	.165	0.000****	-1.063 - (-0.387)	0.537
Occupation	0.810	1.681	0.634	-2.633 - 4.252	

***Linear Regression

The professional factor was not statistically significant as an independent factor contributing to knowledge enhancement. The determinant coefficient (R²) is 0.537, which showed that participation in allergy-focused training can statistically improve the knowledge of trainees as much as 53.7%.

DISCUSSION

The first contact of allergy cases can be seen in PHC. Health workers in PHC are expected to have adequate knowledge about allergies to support optimal diagnosis and disease management. Efforts for knowledge improvement can be carried out in several ways, such as providing training, preparing guidelines, and establishing allergic cases reporting system in the community (9,12). From our study, a total of 21 training participants from PHC had never received previous integrated training on children allergies. Based on our investigation, a similar training had never been held in other provinces in Indonesia, which could explain the insufficient PHC role in the management of children allergy cases in Indonesia and insufficient knowledge and confidence in health workers in handling children with allergy cases. The same thing was found in several previous research in the United States (14), Turkey (15), and Qatar (16). A 2008 study in the United States revealed that health workers treated patients with food allergies based on clinical experience more than clinical evidence (14). Health workers were reported to read or at least know the management of allergy disease on children but found it difficult to practice (15). Parents of patients with allergies stated dissatisfaction with health workers in PHC regarding the management of their children (17). Parents as a primary caregivers need an adequate education about their children's allergic conditions but were rarely met (18). Differences in the management between health workers and another made the parents confused (17,19). This condition also encouraged parents to take their children to a pediatrician or seek a second opinion from other health workers (19). This showed the interest and the need for further allergy-related education for health workers in PHC.

Our study included multidisciplinary health workers (general practitioners, specialists, dentists, nurses, and midwives) and found knowledge improvement from every participant before and after attending the training. This training was the first allergy training with participants from multidisciplinary health workers in Indonesia, which could support the multidisciplinary and comprehensive management of pediatric allergy. Multidisciplinary patient management is an effective form of patient care. In the management of pediatric allergy, a team consisting of pediatric allergy immunologists/pediatricians, nurses, and dieticians who have attended training on allergy is needed (20–22). In some countries, allergy management was holistic (22,23). The treatment of pediatric food allergy cases at a clinic in Kansas and

Missouri, United States had involved a team consisting of general practitioners, pediatric allergy immunologists, nurses who received allergy training, and dietitians. In this way, the management of children with a food allergy is expected to maximize and prevent complications, such as nutritional imbalance or psychosocial disorder (23). With the limited number of allergy immunologists, maximizing the available health workers can be done. In PHC, doctors and nurses are expected to receive allergy training to improve early detection and primary prevention of allergy cases in the community (1,20). In addition, a reporting/consultation system from health workers in PHC to pediatric allergy immunologists can be established to help in the diagnosis and treatment of pediatric allergy cases (1,20,24).

A significant difference in knowledge improvement was found in the general practitioner and midwife groups. Following the Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07/MENKES/320/2020 concerning Midwifery Profession Standard, midwife provides services that include the maternal health service, children health service, women's reproduction health service, and family planning, as well as task implementation based on the authority delegation and/or task execution in certain limited conditions. A midwife is expected to have a role in conducting early detection and health problem screening in neonates, infants, pre-schoolers, and adolescents (25). The problem in allergy is not clearly stated; however, problems in allergy can be found from infancy, also known as an atopic march (26). The Midwife Competency Standards that was issued by the Indonesian Midwives Association in 2014 also did not mention the problem of allergies (27), which explains the insufficient allergy-related knowledge of midwives. Considering that midwife is often the first contact of maternal and child health cases in the community, their role in maternal and child health is important (28). For example, in the case of maternal pregnancy with asthma comorbidity, the midwife is expected to collaborate with the general practitioner, obstetrician, and nurse to give holistic services (29). Therefore, involving the midwife in optimizing the early detection of maternal and pediatric allergy cases in the community is important.

The training material was presented as PowerPoint presentations, infographics, videos, and pocketbooks, which were prepared by specialist consultants on a related topic that was not too complicated and are adapted to daily clinical practices. Previous similar training stated that training with practical and interactive learning media could increase the effectiveness and post-training implementation in daily clinical practices (14,16). In Indonesia, guidelines about allergy have been published by the Indonesian Pediatrician Association (food allergy, cow's milk allergy, and primary prevention of allergy) and the Indonesian Dermatologist and Venereologist Association (atopic dermatitis). However, the published

guidelines were still intended for specialist-based practice. Hence, guidelines for PHC about allergies are necessary. The teaching materials, which were prepared by the team, are expected to support the optimal management of allergies in PHC.

Due to the COVID-19 pandemic, we were obliged to shift our initial training scheme from face-to-face and direct mentoring training to online-based training. Several challenges were encountered while commencing online training, such as minimized interaction between trainers and trainees, indirect supervision by trainers, and a poor learning environment for trainees. These challenges are as well reported by several previous studies (30,31,32). Jordan reported poor interaction with the instructor as a major drawback for implementing distance e-learning (30). In addition, Jordan reported some technical issues regarding distance e-learning; however, similar issues were not reported in our study. Based on satisfactory level from our training, our study achieved satisfaction. This finding is found similar to a study in India (32). In medical education, traditional face-to-face medical training is found to be more effective than online training (31). However, during the COVID-19 pandemic, online training could be a preferred alternative option to continue medical education. Several recommendations to further optimize online training are implementation of the blended approach in medical training, guideline, and pre-recorded video/study material for the trainee, and collaboration and facilitation of technical and infrastructure resources both for the trainer and trainee (30 – 32).

The limitation of our study was the small sample size that could not represent the entire population of health workers in Yogyakarta. In addition, the correlation of participants' length of clinical practice, previous experience in treating allergic cases, and previous experiences in treating anaphylactic cases or drug allergies were not assessed. The suggestion from the team was to conduct training with direct mentoring in the field for more optimal results.

CONCLUSION

This study concluded that the knowledge enhancement of health workers found a significant difference between the general practitioner and midwife. The main contributing factor in improving PHC professional competency in allergy was the participation in allergy-focused training. The role of PHC was less than optimal in the management of multifactorial allergies in the community. One of the methods that could be used to improve early detection and allergy treatment was to conduct training for health workers and establish a collaborative allergy reporting system.

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REFERENCES

1. Pawankar R, Canonica G, Holgate S, Lockey R. (2013). WAO white book on allergy: update 2013. *Pediatriya*.
2. Potter PC, Warner JO, Pawankar R, Kaliner MA, Del Giacco S, Rosenwasser L. Recommendations for competency in allergy training for undergraduates qualifying as medical practitioners: a position paper of the World Allergy Organization. *World Allergy Organization Journal*. 2009 Dec;2(8):150-4.
3. Munasir Z, Muktiarti D. The management of food allergy in Indonesia. *Asia Pacific Allergy*. 2013 Jan;3(1):23.
4. Jutel M, Angier L, Palkonen S, Ryan D, Sheikh A, Smith H, et al. Improving allergy management in the primary care network—a holistic approach. *Allergy*. 2013 Nov;68(11):1362-9.
5. Jutel M, Papadopoulos NG, Gronlund H, Hoffman HJ, Bohle B, Hellings P, et al. Recommendations for the allergy management in the primary care. *Allergy: European Journal of Allergy and Clinical Immunology*. 2014 Jun;69(6):708-18.
6. Gupta RS, Springston EE, Kim JS, Smith B, Pongracic JA, Wang X, et al. Food allergy knowledge, attitudes, and beliefs of primary care physicians. *Pediatrics*. 2010 Jan 1;125(1):126-32.
7. Flokstra de Blok BMJ, van der Molen T, Christoffers WA, Kocks JWH, Oei RL, Elberink JNGO, et al. Development of an allergy management support system in primary care. *Journal of Asthma and Allergy*. 2017 Mar;10,57-65.
8. Demoly P, Chabane H, Fontaine JF, de Boissieu D, Ryan D, Angier E, et al. Development of algorithms for the diagnosis and management of acute allergy in primary practice. *World Allergy Organization Journal*. 2019 Jan;12(3).
9. Skypala IJ, De Jong NW, Angier E, Gardner J, Kull I, Ryan D, et al. Promoting and achieving excellence in the delivery of Integrated Allergy Care: the European Academy of Allergy & Clinical Immunology competencies for allied health professionals working in allergy. *Clinical and Translational Allergy*. 2018 Dec;8(1):1-6.

10. Jones RB, Hewson P, Kaminski ER. Referrals to a regional allergy clinic-an eleven year audit. *BMC Public Health*. 2010 Dec;10(1):1-0.
11. Kastner M, Harada L, Wasserman S. Gaps in anaphylaxis management at the level of physicians, patients, and the community: a systematic review of the literature. *Allergy*. 2010 Apr;65(4):435-44.
12. Wallengren J. Identification of core competencies for primary care of allergy patients using a modified Delphi technique. *BMC medical education*. 2011 Dec;11(1):1-8.
13. Agache I, Ryan D, Rodriguez MR, Yusuf O, Angier E, Jutel M. Allergy management in primary care across European countries - actual status. *Allergy: European Journal of Allergy and Clinical Immunology*. 2013 Jul;68(7):836-43. <https://doi.org/10.1111/all.12150>
14. Joyce EY, Kumar A, Bruhn C, Teuber SS, Sicherer SH. Development of a food allergy education resource for primary care physicians. *BMC Medical Education*. 2008 Dec;8(1):1-8.
15. Yilmaz O, Reisli I, Tahan FU, Orhan FA, Boz AB, Yuksel H. Influence of education on primary care physicians' knowledge on childhood allergy as a systemic disease and the atopic march. *Allergologia et Immunopathologia*. 2011 Mar 1;39(2):73-8.
16. Adeli M, Hendaus MA, Abdurrahim LI, Alhammadi AH. The importance of educating postgraduate pediatric physicians about food allergy. *Advances in Medical Education and Practice*. 2016 Oct;7:597.
17. Gupta RS, Kim JS, Barnathan JA, Amsden LB, Tummala LS, Holl JL. Food allergy knowledge, attitudes and beliefs: focus groups of parents, physicians and the general public. *BMC Pediatrics*. 2008 Dec;8(1):1-0.
18. Meintjes KF, Nolte AG. Primary health care management challenges for childhood atopic eczema as experienced by the parents in a Gauteng district in South Africa. *Health Sa Gesondheid*. 2016 Dec;21:315-22.
19. Hu W, Grbich C, Kemp A. Parental food allergy information needs: a qualitative study. *Archives of disease in childhood*. 2007 Sep;92(9):771-5.
20. Royal College of Physicians. Allergy: the unmet need. A blueprint for better patient care. 2003.
21. Antonella Muraro, David Alejandro Mendoza Hernandez, Managing food allergy and anaphylaxis: a new model for an integrated approach. *Allergy International*. 2020;69(1):19-27.
22. Cook J, Beresford F, Fainardi V, Hall P, Housley G, Jamalzadeh A, et al. Managing the pediatric patient with refractory asthma: a multidisciplinary approach. *Journal of Asthma and Allergy*. 2017 Apr;10:123.
23. Dinakar C, Warady B. Food allergy care: "it takes a team." *Missouri Medicine*. 2016 Jul;113(4):314.
24. Dramburg S, Marchante Fern6ndez M, Potapova E, Matricardi PM. The potential of clinical decision support systems for prevention, diagnosis, and monitoring of allergic diseases. *Frontiers in Immunology*. 2020 Sep;11:2116.
25. Menteri Kesehatan Republik Indonesia, KEPUTUSAN MENTERI KESEHATAN REPUBLIK INDONESIA NOMOR HK.01.07/MENKES/320/2020 TENTANG STANDAR PROFESI BIDAN. 2020.
26. Hill DA, Spergel JM. The atopic march: critical evidence and clinical relevance. *Annals of Allergy, Asthma & Immunology*. 2018 Feb;120(2):131-7.
27. Indonesia PP. Standar Kompetensi Bidan Indonesia. Jakarta: IBI. 2014.
28. de Jonge A, de Vries R, Lagro-Janssen AL, Declercq E, Downe S, Hutton EK. The importance of evaluating primary midwifery care for improving the health of women and infants. *Frontiers in Medicine*. 2015 Mar;2:17.
29. Nolte AG, Hastings-Tolsma M, Hoyte F. Midwifery management of asthma and allergies during pregnancy, birth, and the postpartum. *British Journal of Midwifery*. 2015 Apr;23(4):260-7.
30. Al-Balas M, Al-Balas HI, Jaber HM, Obeidat K, Al-Balas H, Aborajoo EA, et al. Distance learning in clinical medical education amid COVID-19 pandemic in Jordan: current situation, challenges, and perspectives. *BMC Medical Education*. 2020 Dec;20(1):1-7.
31. Thapa P, Bhandari SL, Pathak S. Nursing students' attitude on the practice of e-learning: A cross-sectional survey amid COVID-19 in Nepal. *PloS One*. 2021 Jun;16(6):e0253651.
32. Sharma R, Mohanty A, Singh V, AS V, Gupta PK, Jelly P, et al. Effectiveness of video-based online training for health care workers to prevent COVID-19 infection: an experience at a tertiary care level institute, Uttarakhand, India. *Cureus*. 2021 May;13(5):e14785.