



Contents lists available at [Journal IICET](#)
JPPI (Jurnal Penelitian Pendidikan Indonesia)
ISSN: 2502-8103 (Print) ISSN: 2477-8524 (Electronic)
Journal homepage: <https://jurnal.iicet.org/index.php/jppi>



Development and validation of questionnaire to assess preschool teachers' knowledge, attitude, and self-efficacy on performing first-aid in children

Damar Prasetya^{*)}, Rose Mini Agoes Salim
Faculty of Psychology, Universitas Indonesia, Indonesia

Article Info

Article history:

Received Apr 14th, 2023
Revised Nov 17th, 2023
Accepted May 03rd, 2024

Keyword:

First aid,
Preschool teacher,
Knowledge,
Attitude,
Self-efficacy,
Questionnaire

ABSTRACT

Despite the importance of performing first aid in child emergencies and injuries, a tool that assess preschool teachers' knowledge, attitude, and self-efficacy in performing these particular skill is still lacking. This study aims to validate the content and face validity of this questionnaire about performing first aid in specific preschool teacher population based on American Heart Association (AHA) recommendation. Content and face validation index were measured in this study. The questionnaire, initially comprising 40 items across three domains (knowledge, attitude, and self-efficacy), was derived from extensive literature review, guidelines, and expert suggestions. Evaluation was performed by eight experts and initial testing conducted on preschool teachers which resulted in a final version with 34 items —18 for knowledge, 4 for attitude, and 12 for self-efficacy—demonstrating strong content and face validity. This questionnaire is then considered valid to be tested in the subsequent phase reliability study and can contribute to assess and to improve preschool teachers' competence in performing first aid for children.



© 2024 The Authors. Published by IICET.
This is an open access article under the CC BY-NC-SA license
(<https://creativecommons.org/licenses/by-nc-sa/4.0>)

Corresponding Author:

Damar Prasetya
Universitas Indonesia
Email: damar.prasetya11@ui.ac.id

Introduction

Emergencies and injuries occur in various age groups including young children. In pediatric population, the annual incidence of cardiac arrest in the United States is approximately 6-10 per 100,000 children. Upon hospital arrival, only 10% survived with 1/5 cases remaining alive with neurological disability due to long-term loss of oxygenation supply to the brain (Blinder et al., 2020). Another important emergency case such as choking also peaked in early-childhood age with a 75% mortality rate (Chang et al., 2021). Emergency and injury cases can occur in various location and settings including school, a place where children spend a lot amount of time other than home. The Indonesian Basic Health Research reports showed that 8.2% of children aged 1-4 years experienced at least one injury in the last year and increased to 12.1% in older children aged 5-14 years (Ministry of Health the Republic of Indonesia, 2018).

First aid, defined as the assessment and interventions that can be performed by a bystander with minimal or no medical equipment, is an important skill that a school teacher must possessed to ensure safety of their students. First aid in children consist of various skills such as identification of emergency in children, basic life support, and injury management. First aid performed in an injured child might increase the chance of survival. A study in United Kingdom showed an increased survival in children receiving basic life support prior to hospital

arrival from 9.5% to 13.2% (Fovaeus et al., 2023). In most injuries happened in school, first aid delivered by teachers also securing the child, improving health outcome, preventing complications, and making a child more comfortable. In Indonesian settings where most preschools do not have a school nurse and a direct access to emergency medical responses, teacher is the main, and sometimes, the only bystander who responsible to perform first aid to their student (Younis & El-Abassy, 2015).

The presence of teachers with an equipped first aid knowledge and skills can make a difference in life and death situations and other urgent conditions (Bashekah et al., 2023). A proper knowledge about first aid possessed by teachers creates a sense of preparedness to handle emergency situations. However, factors affecting preparedness to perform first aid are not solely rely on knowledge but also attitude and self-efficacy of a person. Attitude towards something can be positive, negative, or neutral and it influence how a person perceived, judge, and respond to a particular concept. Positive attitude toward first aid not only increased the probability of performing it when needed but also increase intention of a person to participate in trainings about first aid (Ge et al., 2022; Ning et al., 2021; Xu et al., 2015).

Self-efficacy, defined by Albert Bandura as a person's own belief in his or her ability to perform a specified task successfully, have a direct influence on personal performance in a specific context including in performing first aid (Bandura, 1977, 1997, 2009; Gulmez-Dag & Capa-Aydin, 2015). Knowledge, attitude, and self-efficacy are important factors that influence the initiation of performing first aid in many bystanders during an incident. Despite having a sufficient knowledge about first aid, preschool teachers are still lacking in self-efficacy of performing first aid to their school children (Dobbie et al., 2019; Kusumawati et al., 2023). This lack of self-efficacy is found not only in those who have not receiving training but also in those who experienced training in first aid (Gulmez-Dag & Capa-Aydin, 2015).

Several trainings in first aid have been performed in several preschools in Indonesia but there are currently no available official and standardized guidelines regarding first aid training in specific preschool teacher population (Chalil, 2020; Ernawati et al., 2021; Juwita et al., 2021; Kustriyani et al., 2020; Kusumaningrum et al., 2018; Neffrety Nilamsari, 2018; Nuriatullizan et al., 2023; Prahmawati & Putri, 2021; Suleman, 2023; Suparti et al., 2023). Most training intervention for preschool teacher are focusing mainly on knowledge as their unit of analysis despite the aforementioned importance of self-efficacy. It is therefore important to accurately measure preschool teachers' self-efficacy in performing first aid. An accurate measurement will be able to capture the level of first aid self-efficacy among preschool teachers to analyse the influencing factors. It will also able to evaluate the effect of first aid training intervention performed in preschool teachers as a targeted population.

To date, there are no available instrument that measure first aid self-efficacy in preschool teachers in Bahasa Indonesia language. Based on several reasons described earlier, a valid, reliable, and specific questionnaire that can measure the level of self-efficacy in performing first aid is needed. This study aims to assess the validity and reliability of Preschool teachers' self-efficacy in performing first aid questionnaire ("Kuesioner pengetahuan, sikap, dan efikasi diri guru prasekolah dalam melakukan pertolongan pertama") among preschool teachers in Indonesia.

Method

Study design and settings

The development and validation of the preschool teacher's self-efficacy on performing first aid questionnaire comprises of two main phases. In the first phase of study, a qualitative study involving experts was conducted to create the initial form of questionnaire (Yusoff, 2019b).

Study Procedure

We designed the questionnaire based on previous research, preliminary study, extensive literature research, guideline evaluation, and experts' review. The development of item questionnaire was derived using guidelines in performing first aid for non-health care workers based on American Heart Association (AHA), British Red Cross, and Indonesian Pediatric Association (International Federation of Red Cross and Red Crescent Societies, 2020; Markenson et al., 2010). These available guidelines expected to be a reference in providing a standardized first aid for children.

Despite many types of emergency and injury cases taught in the manual of first aid training for civilians, we selected several injuries that are very common experienced by preschool students in Indonesian settings based on previous research available and our own preliminary study regarding incidence and pattern of child injury in preschool location. The initial questionnaire assesses these following aspects: (1) Basic life support consist of performing cardiopulmonary resuscitation and choking management and (2) Injury management consist of abrasive wound, bleeding, sprains, and fractures. There are two sections in the questionnaire. The first section

consists of items about participant's demographic information and previous training experience. The second section comprises of items representing the self-efficacy domain.

Validity refers to the degree that the scale measures the latent dimension that was intended i.e., knowledge, attitude, and self-efficacy about first aid. Three types of validity evaluated in this study are content validity, face validity, and construct validity. Content validity is a formal assessment by subject experts and refers to the degree to which elements of assessment instrument are relevant and representative of the targeted construct for a particular assessment purpose (Bagby et al., 2018; Yusoff, 2019a). Face validity assess whether each item represents the construct being studied based on its value and is an informal review by non-experts who assess its clarity, comprehensibility, and appropriateness for the target group (Bagby et al., 2018; Yusoff, 2019b). On the other hand, construct validity measured whether an instrument was able to capture what was intended to be measured (Bagby et al., 2018). Eight experts revised the questionnaire to ascertain the content validity. The content validity evidence can be represented by the content validity index (CVI). Prior to CVI calculation, several steps including selecting expert panel, conducting content validation, reviewing items, and providing score on items should be performed first.

To assess content validity, an expert panel consisted of four paediatricians and four first aid provider assessed the content validity aspects such as relevance, clarity, representation, and language using the Delphi panel method. Modification in retention, addition, or removal of items was performed based on experts' suggestion. Assessment of face validity was performed by ten raters to assess its clarity and comprehension. The respondents who rate the face validity include the person who actually will take the test. Face validity index (FVI) in both item and scale level were calculated to assess its comprehension. We also asked teachers to evaluate the clarity of the questions in the questionnaire. The resulting questionnaire was evaluated again by experts to obtain a final revision before being administered to preschool teachers.

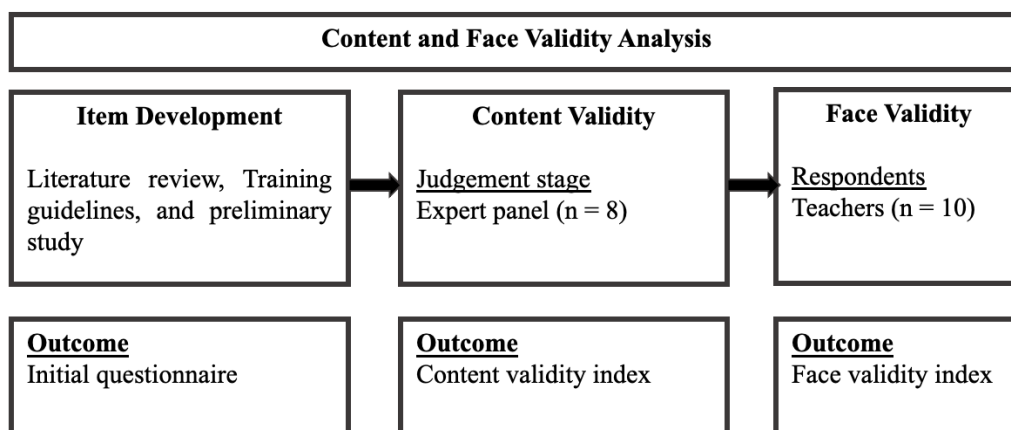


Figure 1. Study Flow

Data Analysis

Content validity of the relevance of the item questions was established by panel experts analysis based on the guidelines by Yusoff (Yusoff, 2019a). In the content validity assessment, all experts responded and scored each question to a scale of 4 (Not useful and must be removed = 1, Useful but not required = 2, relevant and required = 3, and highly relevant and must be required). The score then recorded as 1 (for score 3 and 4) and as 0 (for score 1 and 2) for further calculation of content validity index. Both content Validity Index at the item level (I-CVI) and at the scale level (S-CVI) were calculated. A cut-off of 0.83 was determined as an acceptable point for a good CVI. For face validity index, respondents scored each item as '1' if "this item question is not clear and not understandable" to '4' if "this item is very clear and very understandable". Similar to content validity calculation, responses then categorized as 1 (for score 3 and 4) and 0 (for score 1 and 2). The face validity index at item level (I-FVI) and at scale level (S-FVI) were calculated with a cut-off point of 0.83 as an acceptable level. Analysis of the data was performed using SPSS 25.0 for Windows.

Results and Discussions

A total of initial 40 items in Bahasa Indonesia language were derived from an extensive literature review, guidelines, and previous studies. First aid performed by teachers in preschool settings primarily consist of performing basic life support and initial management of injury cases of children. Three domains were included in the questionnaire: knowledge domain, attitude domain, and self-efficacy domain. The knowledge domain

comprises of initially 20 items consisting of knowledge in performing basic life support (item K1-K7), choking management (K8, K9), seizure management (K10, K11) and first aid in various injury cases (K12-K20). The attitude domain of this questionnaire comprises initially 4 items (A1-A4) regarding the general attitude of respondents about performing first aid. A total of 14 items in the self-efficacy domain comprises of self-efficacy in performing basic life support (SE1-SE5), choking management (SE6), first aid in seizure (SE7), and first aid in various injury cases (SE8-SE14). The first version of questionnaire is available in Appendix A.

Table 1. Domains and sub-domains of initial questionnaire

Domain	Sub-domain	Number of items	Total items
Knowledge	Knowledge about basic life support	7	20
	Knowledge about choking management	2	
	Knowledge about first aid in injury	11	
Attitude	Perceived benefit and barrier	4	4
Self-efficacy	Self-efficacy in basic life support	5	16
	Self-efficacy in choking management	1	
	Self-efficacy in injury	10	

Eight experts in first aid of children assessed the questionnaire's content validity. In content validity analysis based on expert panel's judgement, the final S-CVI score for each domain was 0.97, 0.96, and 0.95 for knowledge, attitude, and self-efficacy domain, respectively. Out of 40 initial items, 32 were accepted without revision, 4 were rejected because I-CVI of less than 0.80, and 4 were revised based on expert's feedback. One item in this step resulted in the second version of questionnaire with 35 total items.

The questionnaire was then tested on 10 preschool teachers to evaluate its clarity and language used. The panel of preschool teachers were all teachers from urban areas. After assessing the face validity index, 31 items were retained but two items need revision and one item was removed. Comments were recorded to improve the structure and clarity of items to obtain the final version of questionnaire. In general, respondents comments revealed no lack of clarity in the wording of items in all items except for item about neck injury with an I-FVI of 0.5. The final version of questionnaire showed an S-FVI of more than 0.80 in all domains.

Final version of questionnaire with an acceptable level of content and face validity comprised of a total 34 items with 18 items measuring knowledge, 4 items measuring attitude, and another 12 items measuring preschool teachers' level of self-efficacy in performing first aid. The findings of this study showed that this questionnaire is a valid instrument for the assessment of knowledge, attitude, and self-efficacy of preschool teachers' self-efficacy when performing first-aid for children in their school.

The development of initial questionnaire was guided by the recommended guidelines by American Heart Association that also used in Indonesia as a benchmark of performing first aid training in both healthcare and non-healthcare population (Markenson et al., 2010; Topjian et al., 2020). Since existing scale was not previously exist in Bahasa Indonesia and in specific preschool teacher population, a comprehensive literature review and a preliminary study about patterns of injury in preschool settings help us to develop the item that is important and relatable to daily practice of preschool teachers in Indonesia. Based on this preliminary study, although existed in the original American Heart Association's guidelines, we did not include injury such as cold stroke (Topjian et al., 2020).

Content validity is a crucial indicator of a questionnaire's validity and performed by a panel of experts (Roebianto et al., 2023; Yusoff, 2019a, 2019b). Selection of experts is important to achieve validity. In this study, four experts are practicing paediatrician and four first-aid providers. We selected paediatrician as experts because not only that they have expertise in emergency cases, but also in special childhood population. Four experts in the field of first-aid providers were also included because they routinely perform training of first aid in both healthcare and non-healthcare population such as school teachers. Delphi method was used to obtained CVI because it allows consensus among judgements (Silva & Montilha, 2021). Delphi method was used rather than multi-rater kappa coefficient because this technique involves several continuous rounds of questioning and feedback to make the final item saturated thus suitable for reaching consensus among experts (Lange et al., 2020).

Table 2. Content and Face Validity of the Final Version of Questionnaire

Code	Items	I-CVI	S-CVI	I-FVI	S-FVI
Knowledge Domain					
K1	Definition of basic life support	1	0.97	1	0.92
K2	Knowledge about sequence of basic life support	1		0.80	
K3	Knowledge about safety in performing basic life support	0.87		1	
K4	Knowledge about how to check response of a child	1		0.80	
K5	Knowledge about frequency of performing CPR	1		1	
K6	Knowledge about appropriate way to perform CPR	1		0.80	
K8	Knowledge about choking management (1)	1		1	
K9	Knowledge about choking management (2)	1		1	
K10	Knowledge about first aid in seizure (1)	0.87		1	
K11	Knowledge about first aid in seizure (2)	0.87		1	
K12	Knowledge about first aid in bleeding of extremities	1		0.70	
K13	Knowledge about first aid in nose bleed	1		1	
K14	Knowledge about first aid in cuts and graze	1		1	
K15	Knowledge about first aid in sprain	1		1	
K16	Knowledge about first aid in fracture (1)	1		1	
K17	Knowledge about first aid in fracture (2)	1		0.8	
K18	Knowledge about first aid in head injury	0.87		0.8	
K20	Knowledge about first aid in burns	1		1	
Attitude Domain					
A-1	Mastering first aid is valuable	1	0,96	1	1
A-2	First aid skills are difficult to master	1		1	
A-3	I enjoy learning about first aid training for children	0,87		1	
A-4	I will provide first aid for my student when needed	1		1	
Self-efficacy Domain					
SE-1	I am able to recognize emergency	1	0.95	1	0.91
SE-2	I am able to perform the right steps of basic life support	1		0.80	
SE-3	I am able to provide breath support when needed	1		1	
SE-4	I am able to perform chest compression/CPR when needed	1		0.80	
SE-6	I am able to manage when choking happened to my student	1		1	
SE-7	I am able to provide first aid when a student has seizure	0.87		1	
SE-8	I am able to provide first aid when a student has head injury	0.87		0.8	
SE-9	I am able to provide first aid when a student has a bruise	0.87		0.8	
SE-10	I am able to provide first aid when a student has fracture or strain	1		1	
SE-11	I am able to provide first aid when a student has nosebleed	1		1	
SE-12	I am able to provide first aid when a student experiences bleeding on part of his/her body	0.87		0.80	
SE-13	I am able to provide first aid when a student has a burn injury on part of his/her body	1		1	

Notes: I-CVI (item-level content validity index), S-CVI (scale-level content validity index), I-FVI (item-level face validity index), S-FVI (scale-level item validity index)

In the content validity process, items with a I-CVI of less than 0.80 were items regarding knowledge and self-efficacy about automated external defibrillator (AED). Despite useful as a part of basic life support, experts who disagree scored those questions as “useful but not relevant”. In many first-aid guidelines, although AED is a part of first aid training, it will be difficult to assess the knowledge and moreover the self-efficacy of teachers because AED are currently not widely available in most preschools in Indonesia. This situation is a challenging problem that faced in Indonesia because although mortality due to sudden cardiac death is high, but AED is not

widely available in public spaces (Gunawan et al., 2018; Seran & Sahroni, 2021). In the future directions of our research to implement intervention, we try to make the training is applicable to teachers in Indonesia thus deleting items about AED will also be relatable.

In the face validation process, all items showed an acceptable level of I-FVI except item about self-efficacy in performing first aid during neck injury (I-FVI 0.5) thus requiring deletion. Comments made about this item were made by five preschool teachers and stated that question about neck injury is a concept that is not fully comprehend by respondents. A study by Birkeland (2014) also showed that healthcare personnel also showed a lower level of knowledge and self-efficacy in the first-aid management of neck injury (Birkeland, 2014). Comments were also found in items about chest compression that initially showed an I-FVI of 0.7. Revision was made by adding the term of cardiopulmonary resuscitation (CPR) because this term is somehow more popular among non-healthcare personnel. We also added picture about CPR to make the item questionnaire more clearly and comprehensible.

Despite the positive results, this study has several limitations. First, CVI is based solely on the subjective agreement of experts and influenced by the numbers of experts involved. Multi-rater kappa coefficient which is recommended to gain a better insight of content validity was not performed in this study. Second, in the face validity process, all respondents were preschool teachers work in urban areas thus might not be representing all preschool settings population. Third, in the face validity analysis, we included both preschool teachers in both with and without any first-aid training experience. In preschool teachers without any prior experience, several terms might not be familiar enough. However, this study had provided a questionnaire with an acceptable content and face validity that ready to be used to assess its construct validity and reliability.

Conclusions

This research has established the content and face validity of a questionnaire designed to assess preschool teachers' knowledge, attitude, and self-efficacy regarding first aid in children. The development of this scale was guided by the American Heart Association recommendation and tailored to the Indonesian context, patterns of preschool injury, and specifically targeted preschool teacher population. This questionnaire is then beneficial to evaluate the efficacy of first-aid training intervention in not only its knowledge but attitude and self-efficacy as well. In the future, the questionnaire can be used to track changes in the knowledge, attitude, and self-efficacy and to assess the best method for intervention in first aid training among preschool teachers' population.

References

- Bagby, R. M., Goldbloom, D. S., & Schulte, F. S. M. (2018). The Use of Standardized Rating Scales in Clinical Practice. In K. Williamson & G. Johanson (Eds.), *Research Methods: Information, Systems, and Contexts* (Second ed, pp. 11–35). Chandos Publishing. <https://doi.org/10.1016/B978-0-323-03123-3.50007-7>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215.
- Bandura, A. (1997). *Self Efficacy: The locus of control*. WH Freeman and Company.
- Bandura, A. (2009). Self-Efficacy in Changing Societies. In A. Bandura (Ed.), *2017 12th International Conference on Ecological Vehicles and Renewable Energies, EVER 2017 (1st Paperb)*. Cambridge University Press. <https://doi.org/10.1109/EVER.2017.7935960>
- Bashekah, K. A., Alqahtani, R., Aljifri, A. M., Ashram, S. Y., Alghamdi, E., Khallaf, A. M., Ibrahim, Z. A., Ghulman, I. M., Alsudais, M., & Banaja, A. W. (2023). The Knowledge, Attitudes, and Associated Factors Regarding First Aid Among the General Public in Saudi Arabia. *Cureus*, 15(7). <https://doi.org/10.7759/cureus.41387>
- Birkeland, V. (2014). Basic Life Support (Bls) Knowledge and Skill Retention and Basic Life Support (Bls) Knowledge and Skill Retention and Increased Self-Efficacy for Rural Health Care Providers Increased Self-Efficacy for Rural Health Care Providers. 1–78. <https://epublications.regis.edu/theses/174>
- Blinder, J., Nadkarni, V., Naim, M., Eossano, J. W., & Berg, R. A. (2020). Epidemiology of Pediatric Cardiac Arrest. *Pediatric and Congenital Cardiology, Cardiac Surgery and Intensive Care*, 1–18. https://doi.org/https://doi.org/10.1007/978-1-4471-4999-6_58-2
- Chalil, M. (2020). Penyuluhan dan Pelatihan Bantuan Hidup Dasar bagi Guru Sekolah Dasar. *Jurnal Implementa Husada*, 1(1), 77–83.
- Chang, D. T., Abdo, K., Bhatt, J. M., Huoh, K. C., Pham, N. S., & Ahuja, G. S. (2021). Persistence of choking injuries in children. *International Journal of Pediatric Otorhinolaryngology*, 144(January), 110685. <https://doi.org/10.1016/j.ijporl.2021.110685>

- Dobbie, F., Clegg, G., Marie MacKintosh, A., & Bauld, L. (2019). PP20 Exploring the knowledge, attitudes, and behaviour of the general public to responding to out-of-hospital cardiac arrest. *Emergency Medicine Journal*, 36(1), e8.2-e8. <https://doi.org/10.1136/emered-2019-999.20>
- Ernawati, R., Muflihatin, S. K., & Wahyuni, M. (2021). Peningkatan Pengetahuan dan Keterampilan Guru TK Aba terhadap Tanggal Bahaya Tersedak ('Choking'). *Journal of Community Engagement in Health*, 4(1), 188–194. <https://jceh.org/index.php/JCEH>
- Fovaeus, H., Holmen, J., Mandalenakis, Z., Herlitz, J., Rawshani, A., & Gyllencreutz Castellheim, A. (2023). Out-of-Hospital Cardiac Arrest: Survival in Children and Young Adults over 30 years, a Nationwide Registry-Based Cohort Study. *Resuscitation*, 195(December 2023), 110103. <https://doi.org/10.1016/j.resuscitation.2023.110103>
- Ge, P., Zhang, J., Lyu, K., Niu, Y., Li, Q., Xiong, P., Liu, J., Yang, Y., Deng, Y., Li, X., Yu, W., Yin, M., Sun, X., Han, X., & Wu, Y. (2022). The current status and factors related to the preparation of home first-aid kits in China. *Frontiers in Public Health*, 10, 1–15. <https://doi.org/10.3389/fpubh.2022.1036299>
- Gulmez-Dag, G., & Capa-Aydin, Y. (2015). Developing and Validating Instruments for Teacher Assessments: Development and validation of first aid self-efficacy scale. *European Educational Research Association*.
- Gunawan, F. E., Perdana, R. G., Seran, M. A. B., & Yonathan. (2018). People knowledge and willingness of automatic external defibrillator usage in public facilities in the capital city of Indonesia. *ICIC Express Letters*, 12(10), 1001–1008. <https://doi.org/10.24507/icicel.12.10.1001>
- International Federation of Red Cross and Red Crescent Societies. (2020). International first aid, resuscitation and education guidelines 2020. 100–290. <https://www.globalfirstaidcentre.org/resource/international-first-aid-resuscitation-and-education-guidelines-2020-2/>
- Juwita, Bendriyanti, R., Dewi, C., & Windoro, D. (2021). Manajemen Pembelajaran dan Penanganan Cedera pada Siswa. *Jurnal Pengabdian Kepada Masyarakat*, 01(01), 22–26.
- Kustriyani, M., Aini, D. N., & Arifianto. (2020). Peningkatan Perilaku Guru dan Orang Tua Dalam Mencegah Injuri pada Anak Usia Pra Sekolah di Taman Kanak-Kanak. *Jurnal Ilmiah Pengabdian Masyarakat Kesehatan*, 1(1), 17–20. <http://jipmk.uwms.ac.id/index.php/jpm/article/view/27>
- Kusumaningrum, B. R., Kartika, A. W., Ulya, I., Choiriyah, M., Ningsih, D. K., & Kartikasari, E. (2018). Pelatihan Pertolongan Pertama pada Kegawatdaruratan di Sekolah Children Centre Brawijaya Smart School Malang. *International Journal of Community Service Learning*, 2(4), 309–314. <https://doi.org/10.23887/ijcs.v2i4.14366>
- Kusumawati, H. I., Sutono, Alim, S., Achmad, B. F., & Putri, A. F. (2023). Factors associated with willingness to perform basic life support in the community setting in Yogyakarta, Indonesia. *Australasian Emergency Care*, 26(4), 303–307. <https://doi.org/10.1016/j.auec.2023.03.003>
- Lange, T., Kopkow, C., Lützner, J., Günther, K. P., Gravius, S., Scharf, H. P., Stöve, J., Wagner, R., & Schmitt, J. (2020). Comparison of different rating scales for the use in Delphi studies: Different scales lead to different consensus and show different test-retest reliability. *BMC Medical Research Methodology*, 20(1), 1–11. <https://doi.org/10.1186/s12874-020-0912-8>
- Markenson, D., Ferguson, J. D., Chameides, L., Cassan, P., Chung, K. L., Epstein, J., Gonzales, L., Herrington, R. A., Pellegrino, J. L., Ratcliff, N., & Singer, A. (2010). American Heart Association and American Red Cross Guidelines for First Aid. *Circulation*, 122(18 Suppl 3), 934–946. <https://doi.org/10.1161/CIRCULATIONAHA.110.971150>
- Ministry of Health the Republic of Indonesia. (2018). Indonesian Basic Health Survey Report 2018 (pp. 1–220). Ministry of Health, The Republic of Indonesia. <https://doi.org/10.1088/1751-8113/44/8/085201>
- Neffrety Nilamsari, R. D. (2018). Efektivitas Pelatihan P3K dan K3 pada Peningkatan Pengetahuan Guru PAUD di Gresik. *Jurnal of Industri Hygiene and Occupational Health*, 3(1), 33–44. <https://scholar.archive.org/work/ksradnjpzfsle3kon74njcq7i/access/wayback/https://ejournal.unida.gontor.ac.id/index.php/JIHOH/article/download/2429/1504>
- Ning, N., Hu, M., Qiao, J., Liu, C., Zhao, X., Xu, W., Xu, W., Zheng, B., Chen, Z., Yu, Y., Hao, Y., & Wu, Q. (2021). Factors Associated With Individual Emergency Preparedness Behaviors: A Cross-Sectional Survey Among the Public in Three Chinese Provinces. *Frontiers in Public Health*, 9(May), 3–10. <https://doi.org/10.3389/fpubh.2021.644421>
- Nuriatullizan, Lestari, D. D., Jannati, Jayanti, B. N. P., Wahyuningsih, R., & AA Sukarso. (2023). Pelatihan P3K untuk Guru TK/RA se-Desa Penimbung untuk Meningkatkan Kesadaran Pentingnya P3K dalam Meminimalisir Masalah Kesehatan di Sekolah. *Prosiding Seminar Nasional Gelar Wicara*, 1(35), 294–302.
- Prahmawati, P., & Putri, D. U. (2021). Penyuluhan Pertolongan Pertama pada Kecelakaan (P3K) bagi Para Guru SDIT Muhammadiyah Gunung Terang, Bandar Lampung. *Jurnal Peduli Masyarakat*, 3(September), 207–212.
- Roebianto, A., Savitri, S. I., Aulia, I., Suciyan, A., & Mubarakah, L. (2023). Content Validity: Definition and Procedure of Content Validation in Psychological Research. *TPM - Testing, Psychometrics, Methodology in Applied Psychology*, 30(1), 5–18. <https://doi.org/10.4473/TPM30.1.1>

- Seran, M. A. B., & Sahroni, T. R. (2021). Design and analysis of automated external defibrillator (AED) using new service development. *IOP Conference Series: Earth and Environmental Science*, 794(1). <https://doi.org/10.1088/1755-1315/794/1/012097>
- Silva, M. R. da, & Montilha, R. de C. I. (2021). Contributions of the delphi technique to the validation of an occupational therapy assessment in the visual impairment field. *Cadernos Brasileiros de Terapia Ocupacional*, 29, 1–15.
- Suleman, I. (2023). Pengaruh Metode Demonstrasi Choking Management terhadap Pengetahuan Guru di TK. *Jurnal Gawat Darurat*, 5(1), 19–28. <https://doi.org/10.32583/jgd.v5i1.1120>
- Suparti, S., Sari, A. A., Fitriana, N. F., Ratna Estria, S., & Widiyawati, A. (2023). Pelatihan Bantuan Hidup Dasar (BHD) Menggunakan Media Komik SITUNGRU dan Simulasi Pada Guru dan Karyawan. *Indonesian Journal of Community Dedication*, 5(2), 32–37.
- Topjian, A. A., Raymond, T. T., Atkins, D., Chan, M., Duff, J. P., Joyner, B. L., Lasa, J. J., Lavonas, E. J., Levy, A., Mahgoub, M., Meckler, G. D., Roberts, K. E., Sutton, R. M., & Schexnayder, S. M. (2020). Part 4: Pediatric Basic and Advanced Life Support: 2020 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*, 142(16 2), S469–S523. <https://doi.org/10.1161/CIR.0000000000000901>
- Xu, W., Hao, Y., Wu, Q., Ning, N., You, J., Liu, C., Jiao, M., Gao, L., Kang, Z., Liang, L., Sun, H., Cui, Y., Li, Y., Han, X., Fang, X., Zhao, X., Hu, M., Ding, D., Gao, H., & Lu, J. (2015). Community preparedness for emergency: A cross-sectional survey of residents in Heilongjiang of China. *BMJ Open*, 5(11), 1–8. <https://doi.org/10.1136/bmjopen-2015-008479>
- Younis, J. R., & El-Abassy, A. (2015). Primary teachers' first aid management of children's school day accidents: Video-assisted teaching method versus lecture method. *Journal of Nursing Education and Practice*, 5(10). <https://doi.org/10.5430/jnep.v5n10p60>
- Yusoff, M. S. B. (2019a). ABC of Content Validation and Content Validity Index Calculation. *Education in Medicine Journal*, 11(2), 49–54. <https://doi.org/10.21315/eimj2019.11.2.6>
- Yusoff, M. S. B. (2019b). ABC of Response Process Validation and Face Validity Index Calculation. *Education in Medicine Journal*, 11(3), 55–61. <https://doi.org/10.21315/eimj2019.11.3.6>