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Original Article

Experiences and Perspectives about Health Literacy Interventions among Health Science Students: A Meta-Aggregation Approach

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Abstract

The promotion of health literacy among health sciences students through interventions based on qualitative evidence is become increasingly crucial as the evidence-based practice encourages a greater understanding of the experiences and opinions of the students so that the interventions can be improved. The purpose of this research is to synthesize the qualitative and mixed methods pieces of research, from published and unpublished studies between 2010 and 2019, gathered from several databases, such as PubMed, Science Direct, EBSCO, CINAHL, Springer Link, Scopus, ProQuest, Cochrane Library, ThaiJo and ThaiLIS. The method of meta-aggregation was applied to synthesize qualitative findings from both qualitative and mixed methods research papers, with a particular focus on the experiences, opinions, and perspectives of health science students after health literacy intervention. The results of the research synthesis showed several similarities between the selected researches. The research results are divided into the following five main categories: 1) feelings of students after intervention; 2) the students' perception of health literacy about health outcomes; 3) strategies to enhance health literacy; 4) teaching and learning utilized to enhance health literacy; and 5) points of concern when enhancing the health literacy. It is recommended that for health literacy promotion among health science students, various strategies should be implemented to enhance health literacy. For instance, correct teaching and learning methods could be used, so that any concerns or negative feelings can be dealt with. This research is believed to contribute to behavioral science knowledge and practice by providing a deeper understanding of health science students' experiences through health literacy promotion.

Health literacy can be defined as the global health issues that both the public and private sectors all around the world should be concerned with (Intarakamhang, 2017). The understanding and knowledge of health is regarded as one of the factors that aids in the promotion of people's health literacy and the maintaining of their health (World Health Organization [WHO], 1998). This is because the rapid changes in the social, political, economic, and technological aspects of life are currently affecting people's behaviors, especially, their behaviors towards their health. For instance, many people are now faced with a high risk of getting injured as there is a chance of them being in a car accident. Moreover, they might be faced with a high risk of obtaining diseases, for example, diabetes, hypertension, and non-communicable diseases (NCDs). However, people can improve their behaviors and ultimately their health if they are able to access, understand and apply the knowledge gained from the health information to their daily lives (Bhutani & Bhutani, 2014). Therefore, health literacy promotion among people should be addressed all around the world since it is one of the essential ways to solve the health problems faced worldwide (Kaeodumkoeng, 2018; Nammontri, 2018).

Nevertheless, health literacy among health sciences students was found to have an overall mean of 36.52 ± 7.73, meaning 30.2 percent of health science students had inadequate or limited health literacy (Rueda-Medina et al., 2020). Moreover, when looking at the level of health literacy among university students in the fields of health, social work and education, their health literacy was classified as limited in health literacy with a total average score of 11.1 on the health literacy index (Juvinyà-Canal et al., 2020). This is the main reason, as mentioned before, why the health science students as healthcare providers of the future should be concerned about improving their health literacy level (Holt et al., 2020; Saunders et al., 2019; Vamos et al., 2020).

Nowadays, studies focused on the meanings of health literacy, its components and health literacy interventions have resulted in a clearer understanding of health literacy. All these aspects form the basis for health literacy promotion and can lead to effective ways of promoting health literacy and developing guidelines concerning various aspects for the various target groups. As a result, the limitations of health literacy promotion can then effectively be reduced. This is because the concept of health literacy is now a new part of health promotion (Nutbeam, 2000) which has been defined as the people of the groups it is targeting possessing the relevant cognitive and social skills to deal with the accessible healthcare services and being able to understand and be well- educated on health media. They should also be able to manage oneself and have the skills to interpret health-related issues and make the right decision (Nutbeam, 2008). One of the target groups in this research consists of professional healthcare workers for whom it is deemed necessary to be able to promote health literacy (Kaeodumkoeng, 2018). The reason for this is that professional healthcare providers who have a high health literacy level can effectively communicate with people and implement best practice among all dimensions, such as health promotion, prevention, cures, and rehabilitation. Moreover, if they possess a high health literacy level, they can also encourage people or patients to ask them any question by giving the people or patients the belief that the professional healthcare providers can provide the correct health information clearly without creating doubt or leaving out important information (Indhraratana, 2014).

Various quantitative, qualitative, and mixed methods studies were found about health literacy promotion from many countries, particularly regarding the health literacy promotion among health science students (Saunders et al., 2019). However, the various studies used different types of interventions to promote health literacy. For instance, the programs, modules and learning management varied at times (Lynch & Franklin, 2019; Saunders et al., 2019; Visscher et al., 2018). Nevertheless, there was an insufficient number of studies done which synthesized all the experiences, opinions, and perspectives of health science students after certain interventions. However, the Joanna Briggs Institute (2017) came up with the meta-aggregation approach to synthesize the qualitative findings from both the qualitative and mixed methods studies. This approach focuses on constructing the meaning of findings without the reinterpreting of the original findings so that actions can be undertaken, and recommendations can be provided based on those findings (Hannes & Lockwood, 2011; Joanna Briggs Institute, 2017; Lockwood et al., 2015). This research synthesis which focuses on the applying of the meta-aggregation approach, combined with the concept of health literacy described by Nutbeam (2008) as its theoretical underpinning, can lead to greater understanding of the experiences, opinions, and perspectives of health science students after health literacy intervention so that proper designed and developed interventions can be created according to the applicable evidence-based principle. This is because qualitative evidence can provide a deeper insight into interventions whereas the participants' feedback during and after interventions can be useful when developing and revising the structure and content of an intervention to be more appropriate for each context and target group (Bastounis et al., 2017; Flemming et al., 2019; Lewin et al., 2009; Stallard et al., 2013). Therefore, this study focuses solely on the findings from both qualitative and mixed method studies. The aim of this research synthesis consequently is to synthesize the results of existing qualitative and mixed method studies focused on the experiences, opinions, and perspectives of health science students after intervention by using the meta-aggregation approach.

Method

In this research, the Joanna Briggs Institute (JBI) methodology of the meta-aggregation (Joanna Briggs Institute, 2017) was applied to synthesize the experiences of health science students in health literacy promotion by looking at the qualitative

findings in both qualitative and mixed methods research. This research synthesis was conducted from October 2019 to March 2020. Qualitative and mixed methods research papers were searched for by the researchers using the keywords: "health literacy"; "functional health literacy"; "interactive health literacy"; "critical health literacy"; "literate on health"; "health and literacy"; "health or literacy"; "literate and health" and "literate or health" across 10 journal databases (e.g. PubMed, Science Direct, EBSCO, CINAHL, Springer Link, Scopus, ProQuest, Cochrane Library, ThaiJo and ThaiLIS). Moreover, hand searching and back-tracking of the articles, research reports, and theses in the libraries was also applied in order to obtain additional literature. The meta-aggregation consisted of unpublished and published research articles, research reports and theses that were conducted among the health science students and published between 2010 and 2019. When searching for types of studies, this meta-aggregation used the principle of PICo (Joanna Briggs Institute, 2017). PICo first of all consists of the participants (which in this case are the health science students), the phenomena of interest (which in this piece of research are the experiences, opinions and perspectives of health science students after an intervention) and the context (which is based on the health literacy), including the study design (which focuses solely on the original qualitative research and qualitative findings in mixed method research only) as well as the inclusion and exclusion criteria. For the included studies, 111 pieces of research were identified through systematic searching across all ten databases while 2 pieces of research were identified through other sources. Afterwards, 19 duplicated pieces of research were removed and once that was completed, a total of 94 titles and abstracts were screened so that ineligible or not relevant to the topic pieces of research could be excluded. The remaining 20 relevant pieces of research were then assessed for their eligibility through a full text review whereby 9 research projects were removed as stated under the protocol criteria. The remaining 5 qualitative and 6 mixed method pieces of research were included in the qualitative appraisal in this meta-aggregation as shown in Figure 1, the PRISMA flowchart (Moher et al., 2009) of included studies.

When looking at the composition of this research, there were three ways how the research synthesis was conducted by the Joanna Briggs Institute (2017) which consisted of an initial screening form, inclusion criteria form, and critical appraisal form. The critical appraisal of the methodologic quality was conducted by using a standardized critical appraisal form provided by the JBI Qualitative Assessment and Review Instrument also known as the JBI-QARI (Joanna Briggs Institute, 2014). Moreover, the data extraction and synthesis were accomplished through meta-aggregation methods which included: 1) the gathering of the findings, themes and metaphors, and the creation of categories, 2) the aggregating of findings by placing similar meaning and weight onto relevant subcategories. 3) merging the subcategories into the main categories 4) presenting a pragmatic line of actions as results (Hannes & Lockwood, 2011 and Joanna Briggs Institute, 2017). When aggregating the results, the hierarchical tree structure method was applied (Heyvaert et al., 2017) and the ConQual Approach (Joanna Briggs Institute, 2017) was also used to measure the dependability and credibility of this research synthesis. This research was certified by the Human Research Ethics Committee of Srinakharinwirot University (SWUEC-G-115/2562).

Results

For this research project, the results were divided into two sections, starting with a summary of the included studies and their quality followed by a section describing the qualitative synthesis results.

The Characteristics Regarding the Included Studies and Study Quality

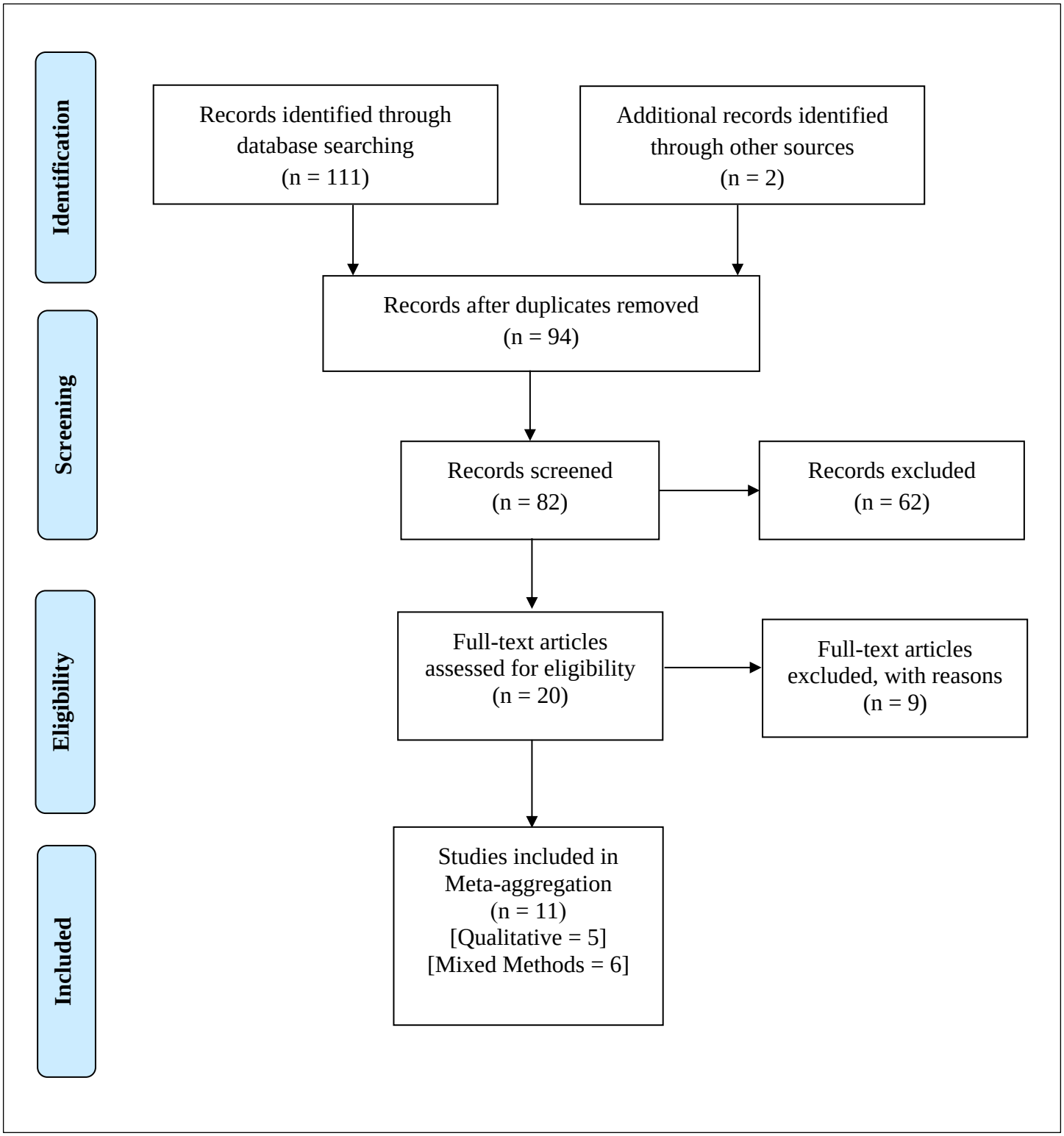
For this research, eleven qualitative and mixed methods studies were selected as shown in figure 1. Most of the studies were mixed method research and conducted between 2010 and 2014 in the nursing field. To evaluate the quality of the studies, the critical appraisal form provided by the Joanna Briggs Institute (2017) was used by the researchers. Characteristics of the included studies and the study quality appraisal results are shown in Table 1.

The Results of Meta-aggregation

For the 11 included studies, summaries of those pieces of research were presented in Table 2. There were 55 findings found upon review of the 11 included studies and they (see Table 3) were categorized into 14 subcategories from which five main categories emerged which reflected the experiences regarding the post health literacy intervention of health science students as shown in Figure 2.

Figure 1

The PRISMA Flowchart of Included Studies in Meta-Aggregation



The results of the meta-aggregation were shown through a hierarchical tree structure as shown in figure 2 (Heyvaert et al., 2017). This structure revealed five main categories which were found by summarizing the similarities between the findings and looking at their subcategories. The first main category which looked at the "feelings of students after intervention" consisted of two subcategories. The second main category which was focused on "the students' perceptions of health literacy on health outcomes" consisted of three subcategories while

Table 1

The Characteristics of Included Studies and Study Quality Appraisal Results

Characteristics	Number of studies (n=11)	References
Type of research		
Qualitative research	5	Scheckel et al. (2010), Shieh et al. (2013), Squellati (2013), Zanchetta et al. (2013), Weekes & Phillips (2015)
Mixed methods research	6	Chen et al. (2013), Frazier (2013), Ross et al. (2013), Milford et al. (2016), Pearce et al. (2018), Sangkam et al. (2018)
Year		
2010-2014	7	Scheckel et al. (2010), Chen et al. (2013), Frazier (2013), Ross et al. (2013), Shieh et al. (2013), Squellati (2013), Zanchetta et al. (2013)
2015-2019	4	Weekes & Phillips (2015), Milford et al. (2016), Pearce et al. (2018), Sangkam et al. (2018),
Researchers' field		
Medicine	2	Ross et al. (2013), Milford et al. (2016)
Pharmacy	2	Chen et al. (2013), Pearce et al. (2018)
Nursing	6	Scheckel et al. (2010), Shieh et al. (2013), Squellati (2013), Zanchetta et al. (2013), Weekes & Phillips (2015), Sangkam et al. (2018)
Education	1	Frazier (2013)
Sample field		
Medicine	3	Frazier (2013), Ross et al. (2013), Milford et al. (2016)
Pharmacy	2	Chen et al. (2013), Pearce et al. (2018)
Nursing	6	Scheckel et al. (2010), Shieh et al. (2013), Squellati (2013), Zanchetta et al. (2013), Weekes & Phillips (2015), Sangkam et al. (2018)
Sample size		
< 10 samples	1	Scheckel et al. (2010)
10-40 samples	4	Squellati (2013), Zanchetta et al. (2013), Weekes and Phillips (2015), Milford et al. (2016)
41-80 samples	1	Shieh et al. (2013)
81-120 samples	1	Pearce et al. (2018)
120 samples	4	Chen et al. (2013), Frazier (2013), Ross et al. (2013), Sangkam et al. (2018)
Critical appraisal scores		
100%	4	Scheckel et al. (2010), Squellati (2013), Zanchetta et al. (2013), Weekes & Phillips (2015)
85-99%	7	Chen et al. (2013), Frazier (2013), Ross et al. (2013), Shieh et al. (2013), Milford et al. (2016), Pearce et al. (2018), Sangkam et al. (2018)

Table 2

Summary of The Eleven Included Studies

Authors/Year	Country	Title	Research designs	N	Data collection
Scheckel et al. (2010)	USA	Addressing health literacy: the experiences of undergraduate nursing students	Interpretive phenomenology	8	Unstructured interview
Shieh et al. (2013)	USA	Experiences of nursing students in caring for patients with behaviors suggestive of low health literacy: a qualitative analysis	Qualitative research	70	Individual interview & small group interview
Squellati (2013)	USA	Health literacy preparation of BSN students: a basic qualitative study	Qualitative research	13	Interview
Zanchetta et al. (2013)	Canada	Undergraduate nursing students integrating health literacy in clinical setting	Qualitative pilot study	16	Individual interview & focus group
Weekes & Phillips (2015)	USA	A mile in my patients' shoes: a health literacy simulation for baccalaureate nursing students	Qualitative study	39	Reflection in class
Chen et al. (2013)	USA	Impact of a health literacy assignment on student pharmacist learning	Mixed methods research	303	Survey open-ended questionnaire
Frazier (2013)	USA	An evaluation of physician-to-patient communication training in medical schools across the United States: a status report on the nation's efforts to promote health literacy by adding health literacy courses to medical school curriculum	Mixed methods research: sequential approach	14	Survey, focus group and interview
Ross et al. (2013)	USA	Medical students' recognition of health literacy in a single embedded curricular activity	Quantitative & Qualitative Analysis	262	Survey and small group discussion
Milford et al. (2016)	USA	Out of the classroom and into the community: medical students consolidate learning about health literacy through collaboration with Head Start	Mixed methods research	12	Pre and Post Intervention Survey
Pearce et al. (2018)	Australia	The use of animations and the "teach-back" technique to facilitate an understanding of health literacy levels within the general community	Mixed methods research	103	Pre and Post Intervention Survey
Sangkam et al. (2018)	Thailand	Health literacy of the students in faculty of nursing, Saint Louis College: mixed methods research	Mixed methods research: explanatory sequential design	387	Survey and Individual interview

Table 3

Summary of Review Findings

Authors/Year	Number of Findings	Coding of Findings and Findings
Milford et al. (2016)	3	1. Perceptions of families' health literacy/numeracy
		2. Surprising experiences
		3. Personal interactions
Ross et al. (2013)	3	4. Impact of low health literacy on health
		5. Correlation between health literacy and literacy
		6. Provider strategies for addressing health literacy
Chen et al. (2013)	4	7. Students learned a great deal about the challenges, importance, and methods of communicating in a health literacy level-appropriate manner with patients
		8. Students found it challenging to simplify the warnings and side effects sections of the leaflet because they contained the most medical terminology and complex directions
		9. Students utilized various strategies to lower the health literacy level of patient information
		10. After completing this exercise, students were more aware of the problem of health literacy and their role in presenting information in a health literacy level-sensitive manner
Pearce et al. (2018)	1	11. the animations were both informative and entertaining and they intend to incorporate their new found understanding of healthy literacy into both their personal and professional lives.
Zanchetta et al. (2013)	5	12. Students' self-identification
		13. Students' understanding and awareness of the multiple dimensions of health literacy
		14. The scope of health teaching practice
		15. Challenges and opportunities to promoting health literacy in clinical practice
		16. Building self-confidence as future nurses who provide health education
	5	17. Empathy
		18. Nervousness
		19. Embarrassment
		20. Helplessness
		21. Communication
Weekes et al. (2015)	3	22. Respecting Languages: Learning Persistence
		23. Helping Patients Understand: Learning to Teach
		24. Promoting Engagement: Learning Sensitivity
Scheckel et al. (2010)	14	25. Noncompliance with disease management
		26. Knowledge deficits about medical procedures
		27. Anxiety and concerns about the unfamiliar
		28. Language barriers
		29. Simplifying information
		30. Reinforcing information
		31. Giving written information

Table 3 *(Continued)*

Authors/Year	Number of Findings	Coding of Findings and Findings
		32. Using demonstration and teach-back
		33. Adopting additional communication strategies
		34. Collaborating with experts
		35. Changing patient knowledge and behavior
		36. Reducing patient emotional strain
		37. Feeling positive about the interaction/experience
		38. Failing to change the patient
Squellati (2013)	6	39. The components, such as classes, lectures, or clinical rotations, of the BSN program that were most helpful in understanding health literacy
		40. the point in the BSN program when health literacy was introduced
		41. The ways the BSN students learned to apply health literacy to patient education
		42. The methods of ensuring patient understanding that were most valuable
		43. The BSN students' description of their roles in integrating health literacy within patient education
		44. The ethical considerations related to health literacy that the BSN students encountered during patient education
Frazier (2013)	5	45. How the promotion of health literacy curriculum was addressed in their medical school
		46. How the students are made aware of the importance of the promotion of health literacy education in their training
		47. The key elements of health literacy being taught within the school of medicine curriculum
		48. The first-hand experience medical school students received when practicing their own skill in health literacy
		49. Discuss support and feedback mechanisms built intothe program to help improve their practice in this area
Sangkam et al. (2018)	6	50. Cognitive of health
		51. Accessing in health
		52. Health communication
		53. Decision making
		54. Self-management
		55. Media literacy

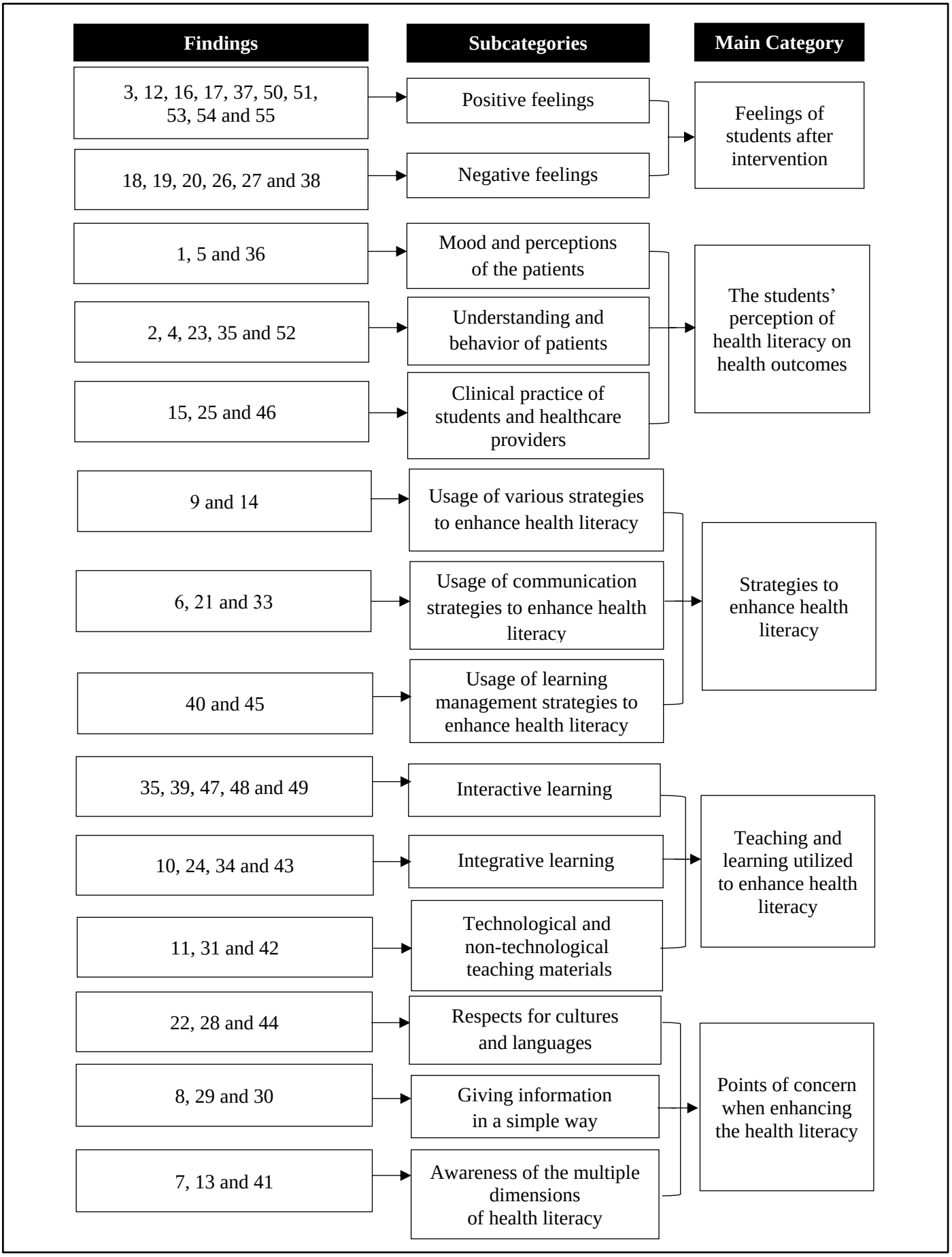
the third main category which was named “strategies to enhance health literacy” consisted of three subcategories. The fourth main category which was “teaching and learning utilized to enhance health literacy” consisted of three subcategories. Likewise, the fifth main category named “points of concern when enhancing health literacy” also consisted of three subcategories.

Synthesis 1: Feelings of students after intervention

This synthesis is based on the 16 findings that were ultimately grouped into the two following subcategories: 1) The first subcategory was named Positive Feelings since the health science students who acquired a health literacy intervention felt positive. For instance, many health science students reflected that they had gained more empathy for their patients after acquiring an intervention. They also

Figure 2

The Hierarchical Tree Structures of Meta-Aggregation's Findings



mentioned that they had more self-confidence to explain or perform a procedure and provide health education to their patients. 2) The second subcategory was Negative Feelings as the health science students after the health literacy intervention also had negative feelings besides positive ones, such as nervousness, embarrassment, anxiety and concerns about the unfamiliarity with clinical practices. In addition, some health science students felt helpless. The reason for this is because they felt they had a knowledge deficit when they performed certain medical procedures by themselves. Furthermore, some felt they had failed themselves when they could not persuade their patients to change their behavior.

Synthesis 2: The students' perception of health literacy on health outcomes

This synthesis is based on the 11 findings that were grouped into the three following subcategories: 1) The first subcategory focused on the Mood and Perceptions of the patients. This highlighted the patients' reflections on whether they were able to reduce the emotional strain after getting some information from health science students. Moreover, they considered if they were able to understand their health and family health status more after getting information from health science students who were literate in health. 2) The second subcategory looked at the Understanding and behavior of patients. The health science students stated that they had an understanding of their patients' health and that they could see the gradual change in their patients' health behaviors after receiving health education from them. 3) The final subcategory focused on the Clinical Practice of students and healthcare providers for which the health science students evaluated their clinical practice performance after doing some medical procedures. Their awareness of the importance of the promotion of health literacy education in their training was also evaluated by the health science students and the healthcare professionals.

Synthesis 3: Strategies to enhance health literacy

This synthesis is based on the 7 findings that were grouped into the three following subcategories: 1) The first subcategory looked at the usage of various strategies to enhance health literacy. The synthesis revealed that it was necessary to utilize various strategies to enhance the health literacy of both the health science students and the patients. 2) The second subcategory focused on the usage of communication strategies to enhance health literacy. For this the healthcare providers and health science students needed to improve the health literacy by using communication strategies and adopting communication techniques to enhance the health literacy of the patients. 3) The final subcategory looked at the usage of learning management strategies to enhance health literacy. The synthesis also revealed that the health science curriculum needed to address the promotion of health literacy more in health science institutions by adding learning management strategies to enhance the health literacy of health science students to the curriculum.

Synthesis 4: Teaching and learning utilized to enhance health literacy

This synthesis is based on the 12 findings that were grouped into the three following subcategories: 1) The first subcategory was Interactive learning and looked at the various interactive teaching and learning methods that were applied to enhance the health literacy, such as in-class discussions, demonstrations, teach-back techniques, clinical rotations, feedback options and traditional lectures. These interactive teaching and learning methods were found to be most helpful when having to understand the health literacy level of the health science students. 2) The second subcategory was Integrative learning. The synthesis revealed that integrative learning teaching and learning methods were also helpful when attempting to enhance the health literacy of health science students. Examples of integrative learning methods include collaborating with experts, patient education and community health services. 3) The last subcategory consisted of technological and non-technological teaching materials. The synthesis showed that both the technological and non-technological teaching materials were helpful when trying to enhance health literacy especially animations. This is due to the fact that they make the teaching materials more informative and entertaining, which in turn leads to a greater understanding of the subject material among health science students.

Synthesis 5: Points of concern when enhancing the health literacy

This synthesis is based on the 9 findings which were grouped into the following three subcategories: 1) The first subcategory was Respect for cultures and

languages. The synthesis revealed that health science students and healthcare providers should be aware of language barriers and ethical considerations related to health literacy they might encounter when providing health education to patients 2) The second subcategory was Giving information in a simple way by trying to simplify and reinforce information for patients and avoiding the use of medical terminology when communication with patients 3) The last subcategory looked at the Awareness of the multiple dimensions of health literacy. This was mainly because it was deemed necessary for health science students to learn about the application of health literacy to patient education so that they could select the best level- appropriate methods of communication for use with their patients.

Discussion

The results from the meta-aggregation or qualitative research synthesis show the experiences, opinions, and perspectives of health science students on the health literacy intervention. In the following sections, the main categories, and some issues regarding them will be discussed.

Feelings of students after intervention

The synthesis results showed the two subcategories describing the positive and negative feelings of students after acquiring a health literacy intervention. Work from Bastounis et al. (2017) found that the students' participation in the program tended to lead to more positive feelings through an increase in their self-confidence, empathy, social skills, and emotion regulation when dealing with anger and disputes. On the other hand, according to the results of Carey et al. (2018) negative feelings of stress and anxiety among students were reduced through the development of competence and confidence through the provision of any kind of support and feedback.

The students' perception of health literacy on health outcomes

The qualitative research synthesis results of the students' perception of the health literacy outcomes consisted of three subcategories. With regards to the mood and perception of patients, the patients showed a reduced emotional strain after receiving some health information. This is related to work by Wang et al. (2018) who stated that health education contributed to an improvement in the knowledge and behaviors of students. This in turn led to a betterment in the health outcomes of the patients due to the students being more helpful and understanding of the patients and their behaviours (Brenner et al., 2016; Paterick et al., 2017). With regards to clinical practice, the effect of gaining some kind of competence and more capabilities due to practicing some procedure was believed to be positive. This is related to work from Fawaz & Anshasi (2019) which revealed that the students perceived that practice and interprofessional simulation-based education contributed to them improving their skills, capabilities, and personal and interpersonal skills. According to McLean et al. (2018) the students established what their healthcare roles were through practice and working professionally. As a result, different professional healthcare providers would end up having different roles, skills, and knowledge based on their experiences

Strategies to enhance health literacy

The usage of various strategies to enhance health literacy was recommended throughout the meta-aggregation. These strategies focused especially on communication strategies related to theories on behavioral change, and social cognitive theory. This is because it was believed that several major factors played a role in behavioral changes, such as personal, environmental, and behavioral factors which ultimately led to people changing their health behaviors more. (Bandura, 1998). This is related to work done by Matsee & Waratwichit (2017), who stated that communication could be made more effective by designing appropriate media and materials to enhance the health literacy level at both the individual and organizational level.

Teaching and learning utilized to enhance health literacy

The qualitative research synthesis results recommended learning management to enhance the health literacy through several ways of learning, such as interactive learning, integrated learning, and using technological and non-technological teaching materials. This was related to the systematic review results of Saunders et al. (2019) which showed that the best training methods to enhance the health literacy were integrative approaches and multiple training episodes. McCleary-Jones (2016) confirmed

that using multiple teaching strategies for health literacy and health behavior promotion was recommended to enhance the health literacy of nursing students. This was related to work from Choeisuwan (2017) that illustrated that using teaching media to explain the lesson through ways such as pictures, models, videos, cartoons, publishing and electronics was recommended to enhance the level of health literacy. Likewise, Kim & Xie's (2017) systematic review also showed that the usage of websites or online apps that were focused on health literacy were found to have positive effects on people's knowledge regarding health conditions.

Conclusion

In this qualitative research synthesis through meta-aggregation, the researchers analyzed the findings of both primary qualitative studies and mixed method studies. The findings of this research gave an overview of the experiences, opinions, and perspectives of health science students regarding post health literacy promotion interventions. The research synthesis results fell into five main categories for which the findings were summarized based on their similarities and subcategories. The subcategories included the feelings of students after an intervention, the students' perceptions of the impact of health literacy on health outcomes, strategies to enhance health literacy, teaching and learning utilized to enhance health literacy, and points of concern when enhancing the health literacy. This research also contributes to behavioral science knowledge and practice. In addition, by providing knowledge through the qualitative research synthesis, it also contributes to the deeper understanding of health science students' experiences in health literacy promotion, which may ultimately lead to the evidence-based implementation of health literacy promotion among health science students. Therefore, it is recommended that health literacy promotion among health science students is implemented through various strategies to enhance health literacy. This includes the use of teaching and learning methods that are correct to them when implementing interventions. These can then be used to help the students recognize how health literacy promotion can lead to both positive and negative feelings after intervention so that negative emotions among both students and patients can be avoided.

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