Review Article

Positive Consequences of the Hidden Curriculum in Undergraduate Nursing Education: An Integrative Review

Abstract

Background: Hidden Curriculum (HC) plays an essential role in nursing education and professionalism. However, its positive consequences have been overlooked. Thus, this study aimed to explore and discuss the positive consequences of HC in nursing undergraduate education. **Materials and Methods:** A comprehensive literature search was conducted to investigate articles published between January 2010 and December 2020. Furthermore, Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was used to select articles, and Consolidated criteria for Reporting Qualitative research (COREQ) and Strengthening the Reporting of Observational studies in Epidemiology (STROBE) tools were employed to appraise qualitative and quantitative studies, respectively. The applied search strategy resulted in a final list of 16 articles out of a total of 132 articles. Next, the data were integrated and categorized using the Whittemore and Knafl methodology. **Results:** Three categories were identified: Individual Consequences; involving increased self-confidence, self-esteem, assertiveness, adaptation, autonomy, and lifelong learning. Social Consequences; involving enhanced socialization, cultural consciousness, and social interactions. Professional Consequences; involving professional socialization, professional identity, professional ethics, link theory and practice, and professional dignity. **Conclusions:** Altogether, we concluded that the emergence of HC and its positive and remarkable consequences in nursing knowledge helps the personal, social, and professional development in nursing.

Keywords: *Curriculum, nursing education, undergraduate*

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Introduction

Hidden Curriculum (HC) refers to processes, pressures, and constraints that are not formally included in the curriculum and are often obscure or invisible.[1-3] HC may be referred to as an informal interaction with faculty members, students, and other health professionals. It is the interaction of behaviors, attitudes, and values in a "cultural process" in medical education. It plays an important role in higher education and helps students to properly take on professional roles.[4,5]

Tacit knowledge has a place in the pyramid of nursing knowledge because all nursing knowledge is derived from it.[6] Students learn hidden values of their profession and culture and practice socialization and professional development in nursing.[7,8] They learn social and professional skills and practice behaviors through a hidden curriculum. The process of professional socialization is one of the basic aspects of the development of nursing students. This process begins with the entry of individuals into the nursing education program and continues in the workplace. Research in nursing education has emphasized the role of values, behaviors, and attitudes in the professional role of nurses.[7,9]

With rapid changes in the value system of societies, considering all aspects of nursing education and its professional and social consequences seems necessary.[10] Negative consequences of the hidden curriculum, such as the problem of value transfer and professional ethics, have already been highlighted. Also, the loss of human values at the bedside, lack of updated practice, negative role models, losing confidence, and bullying behaviors and incivilities have been mentioned in other studies.[4,11] However, most of the previous studies focused on the definitions of HC concept[2] and its context, causes,[12]

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dimensions,[13] and processes,[14] while its consequences in nursing education were less investigated. Therefore, here, we focused on positive consequences as an approach to maintain and promote professional values. This integrative review aims to explore and discuss the positive consequences of HC in undergraduate nursing education.

Materials and Methods

This study was based on an integrative review approach. The integrative review identifies, analyzes, and synthesizes the results of independent studies. It is the methodology that provides new knowledge based on available studies around a specific topic and yields new insights and applicability in practice.[15] We conducted an integrative review of the available evidence around HC in nursing education. For this purpose, MEDLINE (PubMed), Web of Science, Embase, Eric, and Scopus databases, as well as MeSH terms, were used to search related articles published from January 2010 to December 2020. Furthermore, Google Scholar was used to access additional articles. Details of our search strategy are provided in [Table 1].

The search results of all databases were pooled, and duplicates were removed using Endnote software. The exclusion criteria of the abstracts were applied to references as the initial exclusion step. The screening and eligibility process and selection of articles are illustrated as a PRISMA flow diagram in [Figure 1]. Inclusion criteria contained i) studies focusing on HC in the field of nursing education, and ii) qualitative and quantitative studies. On the other hand, exclusion criteria included i) postgraduate nursing students, ii) review studies, and iii) brief conference articles.

The Consolidated criteria for Reporting Qualitative research (COREQ) checklist was used to appraise qualitative studies.[16] The number of studies retrieved after screening and evaluation was 13 [Table 2]. Based on the number of items addressed in each study,[17] the COREQ continuum for the selected articles was good ($\geq$ 25 items), moderate (17 to 24), poor (9 to 16), or very poor ($\leq$ 8). On the other hand, the STROBE checklist was used to evaluate descriptive studies [Table 3].[18] Scores assigned to each reviewed study were in the range of 0–100%, where studies were rated as poor quality (score $\leq$ 40%), medium quality (40–60%), and high quality ($\geq$ 70%). All these steps were performed by two authors [H.A. and H.K.] independently.

In this study, Whittemore and Knafl's five-step method involving data reduction, data display, data comparison, conclusion drawing, and verification was employed for data synthesis. Data synthesis is the final step after subgroup analysis. Conclusions of each subgroup were integrated into the topic, In other words, they revealed a phenomenon. Then, a new conceptualization integrated all subgroups into comprehensive categories of the topic of concern, thus completing the process. Finally, in

Table 1: Search terms and filter for Web of Science, PubMed, Embase, Scopus, and Eric

PubMed: ("Education, Nursing, Baccalaureate"[Mesh]) OR ("Students, Nursing"[Mesh]) AND (hidden curriculum[Title/Abstract]) AND (curriculum[Title/Abstract]) = 13

Web of Science: TOPIC: (hidden curriculum OR informal curriculum) AND TOPIC: (nursing student AND education) = 64

Embase: ("hidden curriculum" OR "informal curriculum") AND ("nursing student" AND "nursing education"): ti, ab, kw=77

Scopus: (TITLE-ABS-KEY ("hidden curriculum") OR TITLE-ABS-KEY ("informal curriculum") AND TITLE-ABS-KEY ("nursing student") AND TITLE-ABS-KEY ("nursing education")) = 17

Eric: abstract/title: hidden curriculum AND nursing education AND student=8

the process of integration, a comprehensive model was developed.[19] For this, and in order to extract the benefits of HC in nursing education, selected studies were carefully read and reviewed several times by two authors [H.A. and H.K.]. The results of each study were crossed-checked by two other authors [H.Ka. And H.E.], and are summarized in Tables 1 and 2.

Ethical considerations

This article has been approved by the ethics committee of Mashhad University of Medical Sciences. [Ethical code: IR. MUMS.NURSE.REC.1398.091].

Results

In the present review, 16 articles addressing HC in nursing education were short-listed [Table 4]. These articles included a wide variety of investigations such as case studies, cross-sectional studies, grounded theory, phenomenology, and instrument development designs, which are described analytically in Table 5. These studies are the output of quantitative and qualitative analyses conducted in the last ten years around the impact of HC on nursing students. After evaluating and analyzing these articles, the positive impacts of HC on nursing students were extracted.

Various aspects of HC, such as values, interests, beliefs, and ideologies, are transmitted throughout the learning process, but their consequences overlap and may affect each other. For instance, an individual who is a member of the professional community, and positive personal consequences will also have professional and social effects. According to our analyses, all consequences can be divided into three main categories: individual consequences, social consequences, and professional consequences.

Individual consequences

Storytelling is one of the hidden aspects of classroom experiences that is effective in engaging students in the topic. It encourages students to pay attention to the subjects and take notes. It can also change the atmosphere of the class,
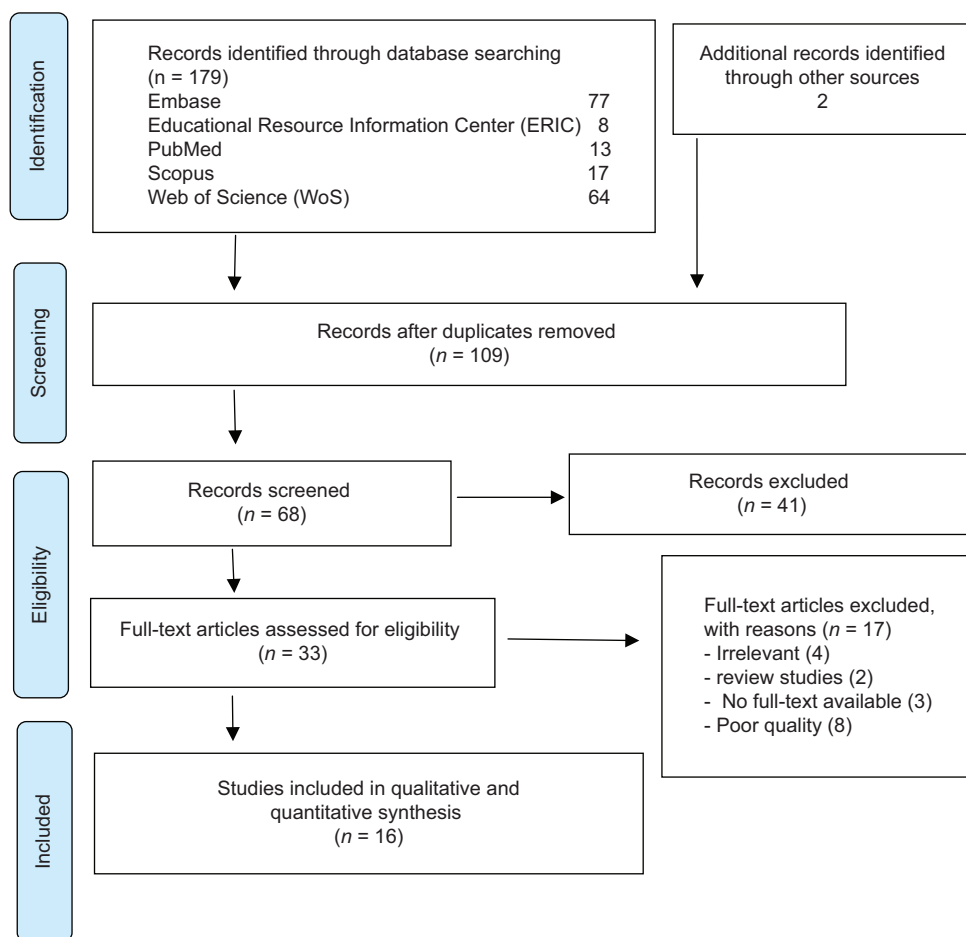
Figure 1: Preferred Reporting Items for Systematic Reviews flow diagram

and lecturers get the advantage of storytelling to engage students and calm down the class.[20] Moreover, it will be particularly useful in distressing situations; hearing the real-life experiences of lecturers allows students to imagine probable stresses in their profession. On the other hand, storytelling has benefits for lecturers such as credibility among students, enjoying the teaching, telling of their good practice, and reconnecting with nursing practice.[20]

Adaptation as a consequence of clinical practice, which can be achieved through a critical reflection in daily personal evaluation, reduces stress and insecurity. In addition, students use different strategies to adapt or solve their problems. Sharing experiences, critical thinking, and self-reflection in clinical practice are the basic approaches to solve the problems with cultural differences during verbal communication between students. The relationship between learning patterns and individual and academic factors in a variety of contexts is an important consequence that affects individuals in clinical practice.[13]

Extending their knowledge, experiences, and communication skills can help students improve their self-confidence, self-esteem, assertiveness, and adaptation to new roles.[26] Students, through easy communications or

informal interactions with near-peer teachers, reach a level of authority in their future clinical placements. Students' fears and apprehension about their clinical placements in hospitals or the community are reduced with a provided opportunity to get information via near-peer teaching sessions. Through these sessions, junior students learn self-management and how to control stressful and difficult situations. They learn how to cope with confronting situations.[29]

In a survey, nursing students claimed that during their clinical practice, they experienced some degrees of concern about their self-efficacy. In teamwork, students may have different confidence levels about applying their knowledge and skills, which can instigate stress and anxiety. However, it was shown that students usually achieve self-efficacy in clinical environments.[30] They learn that confidence is needed in clinical practice. They are confident of their knowledge and skills, like the placement of the electrocardiogram. Although they experience different levels of self-confidence, they finally learn how to adapt to a stressful environment.[30] Students' perspectives on spiritual care related to the school care environment becomes more positive. This has obvious implications for spiritual-based nursing programs.[31]

Table 2: Reporting quality of studies according to the COREQ* criteria (Qualitative study)

Criteria	Author (year)												
	Attenborough et al. (2020)	Allan et al. (2011)	Alexander-Ruff et al. (2018)	Azadi et al. (2017)	Din mohammadi et al. (2015)	Gonzalez et al. (2016)	Karimi et al. (2014)	Kumaran et al. (2014)	Lee et al. (2019)	Fang Ma et al. (2014)	McKenna et al. (2017)	Peterson D. T. et al. (2018)	Raso et al. (2018)
Domain 1: Research team and reflexivity													
Personal Characteristics													
1. Inter viewer/facilitator	1	0	0	1	1	1	0	0	0	1	1	1	1
2. Credentials	1	1	1	1	1	1	0	0	1	0	1	1	1
3. Occupation	1	1	1	1	1	1	1	1	0	0	0	1	1
4. Gender	1	1	1	1	1	1	1	1	1	0	1	1	1
5. Experience and training	1	1	1	1	1	1	1	1	0	0	0	1	1
Relationship with participants													
6. Relationship established	1	1	1	1	1	1	1	1	0	0	0	1	1
7. Participant knowledge of the interviewer	1	1	1	1	1	1	1	1	0	1	0	1	1
8. Interviewer characteristics	1	1	1	1	1	1	1	1	1	1	1	0	1
Domain 2: study design													
Theoretical framework													
9. Methodological orientation and Theory	1	1	1	1	1	1	1	1	1	1	1	0	1
Participant selection													
10. Sampling	1	0	0	1	1	1	0	0	1	1	1	1	1
11. Method of approach	1	1	1	1	1	1	1	1	1	1	1	1	1
12. Sample size	1	1	1	1	1	1	1	1	1	1	1	1	1
13. Non-participation	1	1	0	1	1	1	0	0	1	0	0	0	1
Setting													
14. Setting of data collection	1	1	1	1	1	0	1	1	1	1	0	1	1
15. Presence of non-participants	1	1	1	1	1	0	1	1	1	1	1	0	1
16. Description of sample	1	0	0	1	1	1	0	0	0	0	0	0	1
Data collection													
17. Interview guide	1	1	1	1	1	0	1	1	1	1	1	1	1
18. Repeat interviews	1	1	1	1	1	1	1	1	1	1	0	0	1
19. Audio/visual recording	1	1	1	1	1	1	1	1	1	1	1	1	1
20. Field notes	0	1	1	1	1	0	1	1	0	0	0	0	1
21. Duration	0	0	1	1	1	1	1	1	1	1	0	0	1
22. Data saturation	0	0	0	1	1	1	0	0	1	1	0	1	1
23. Transcripts returned	0	0	0	1	1	1	0	0	0	1	1	0	1
Domain 3: analysis and findings													
Data analysis													
24. Number of data coders	0	0	0	1	1	1	0	0	0	0	0	0	0
25. Description of the coding tree	1	0	0	1	1	1	1	1	1	1	1	1	0
26. Derivation of themes	1	0	0	1	1	1	1	1	1	1	1	1	1

Contd...

Table 2: Contd...

Criteria	Attenborough et al. (2020)	Allan et al. (2011)	Alexander-Ruff et al. (2018)	Azadi et al. (2017)	Din mohammadi et al. (2015)	Gonzalez et al. (2016)	Karimi et al. (2014)	Kumaran et al. (2014)	Lee et al. (2019)	Fang Ma et al. (2014)	McKenna et al. (2017)	Peterson, D. T. et al. (2018)	Raso et al. (2018)
27. Software	1	0	0	0	0	1	1	1	1	1	0	1	0
28. Participant checking	0	0	0	1	1	1	1	0	1	0	1	0	0
Reporting													
29. Quotations presented	1	0	0	1	1	1	1	1	1	1	1	1	1
30. Data and findings consistent	1	1	1	1	1	1	1	1	1	1	1	1	1
31. Clarity of major themes	1	0	0	1	1	1	1	1	1	1	1	1	1
32. Clarity of minor themes	1	1	1	1	1	1	1	1	1	1	1	1	1
Total score	25	20	19	31	31	31	28	23	25	20	19	22	29

Total score Evaluation: good (≥ 25 items), moderate (17 to 24), poor (9 to 16), very poor (≤ 8)

* Consolidated criteria for Reporting Qualitative research

Table 3: Reporting quality of studies according to the STROBE* criteria

Item	Item No	Author (year)		
		Azadi *et al.* (2018)	Kelly (2019)	Ramal (2010)
Title and abstract	1(a)	1	0	1
	1(b)	1	1	1
Introduction	2	1	1	1
Objectives	3	1	1	1
Methods				
Study design	4	1	1	1
Setting	5	1	1	1
Participants	6(a)	1	1	1
	6(b)	0	1	NA**
Variables	7	1	1	1
Data sources	8	1	1	1
Bias	9	0	0	0
Study size	10	1	0	1
Quantitative variables	11	1	1	1
Statistical methods	12(a)	1	1	1
	12(b)	1	1	1
	12(c)	1	0	1
	12(d)	NA	1	0
	12(e)	NA	1	0
Results				
Participants	13(a)	1	1	1
	13(b)	NA	0	0
	13(c)	NA	1	0
Descriptive data	14(a)	1	1	1
	14(b)	NA	1	0
	14(c)	NA	NA	0
Outcome data	15	1	1	1
Main results	16(a)	1	1	1
	16(b)	NA	1	0
	16(c)	NA	1	0
Other analyses	17	1	1	1
Discussion				
Key results	18	1	1	1
Limitations	19	1	0	
Interpretation	20	1	1	1
Generalisability	21	0	1	0
Funding	22	1	0	1
Total score		23.26	26.32	22.31
Percentage		88.4	81.2	70.9
Quality of study		H***	H	H

*Strengthening the Reporting of Observational studies in Epidemiology. **NA=Not available, M=Moderate, ***H=High

Social consequences

Socialization is the result of exchanging ideas with individuals in the clinical setting. Students need to learn negotiating before they take on a clinical position, and consequently, nursing students usually become socialized through HC.[1] The growth of cultural consciousness and awareness in nursing students is the result of learning in a homogeneous environment. The Cultural Immersion

Table 4: Reporting quality of studies according to the COREQ* and STROBE** criteria

Author	Assessment tool	Quality of studies
Attenborough and Abbott (2020)[20]	COREQ Checklist	High
Allan *et al*. (2011)[1]	COREQ Checklist	Moderate
Alexander-Ruff and Kinion (2018)[21]	COREQ Checklist	Moderate
Azadi *et al*. (2017)[22]	COREQ Checklist	High
Azadi *et al*. (2018)[13]	STROBE Checklist	High
Dinmohammadi *et al*. (2015)[9]	COREQ Checklist	High
Gonzalez *et al*. (2016)[23]	COREQ Checklist	High
Karimi *et al*. (2014)[24]	COREQ Checklist	High
Kelly (2019)[25]	STROBE Checklist	High
Kumaran and Carney (2014)[26]	COREQ Checklist	Moderate
Lee and Yang (2019)[27]	COREQ Checklist	High
Ma *et al*. (2014)[28]	COREQ Checklist	Moderate
McKenna and Williams (2017)[29]	COREQ Checklist	Moderate
Peterson *et al*. (2018)[30]	COREQ Checklist	High
Ramal (2010)[31]	STROBE Checklist	High
Raso (2019)[32]	COREQ Checklist	High

*Consolidated criteria for Reporting Qualitative research **Strengthening the Reporting of Observational studies in Epidemiology

Service-learning (CISL) can facilitate this growth through self-reflection. The experience of students with CISL was explained as general learning about the customs and norms of society.[21] In most societies, learning about a culture or community is respected.

Professional factors and conditions, including educational environments, hidden curricula such as professors and educators, care team members, patients, and peers, as well as non-professional factors such as community, media, family, friends, and individual expectations, are effective in the professional socialization of nursing students. The effect of professional factors and conditions on students' professional socialization is more direct and obvious. However, it can depend on various parameters. On the other hand, the impact of the factors and conditions of extracurricular activities is usually indirect and hidden. Such activities and their impact begin before a person enters the training course and decrease gradually during the study.[9]

A strict environment throughout nursing education was reported to increase students' awareness of the importance of social hierarchy in the clinical context.[27] Learning through mental communication, that is, via indirect messages, is the process of social interactions. Analyzing behaviors and feelings of nurses in the clinical atmosphere as a social strategy allows students to better cope with the atmosphere. Learning social norms in the clinical environment, which is derived from the cultural-clinical context, leads to professional socialization and professional nursing.[27] Due to the pivotal role of teamwork in nursing and considering different personality traits, adaptation to the group is a necessity, which often develops in a clinical atmosphere. Adaptation in a group can mean the suppression of individual opinions in cases where the person does not agree.[32]

Professional consequences

Stories of clinical and life experiences play an important role in the global promotion of nursing. Helping students to engage, link theory and practice, role-model good practice, and envisage a life as a nurse, are some of the benefits of using the experiences mentioned in the context of stories as hidden experiences. The link between theory and practice is one of the hidden consequences of telling experiences by lecturers. These experiences can help students understand that theory is not necessarily the same as practice and help them bridge the gap between theory and practice. Students believe that the ability to combine theory and practice is part of the learning process that is achieved via clinical experiences, which are increased in the final years of their studies.[20] The supernumerary status leads to expectations in nursing students that contribute to the theory-practice gap.[1] This is a very important issue for their professional growth.

Results of the CISL experience in the clinic leads to the emergence of three themes: skill development, distinction, and cultural engagement. It can also improve students' self-confidence by discussing the ability to care for and modify the patients' physical evaluation. Through CISL, students learn to connect with their patients and integrate culture and patient care by immersing themselves in a multicultural environment.[21] The clinical diary by nursing students is an effective facilitator of critical thinking and reflective process in their self-assessment. This can also be used as a tool for ideological clarification and cultural communication, as it also affects the general culture of the health and education system.[23]

Avoiding material benefits in interactions, caring for patients, maintaining their dignity, respecting their privacy, and gaining patients' trust are ethical issues learned by nursing students in clinical environments.[22] In the patient

Table 5: Positive consequences of the hidden curriculum

Authors (year); country	The objective of the study	Design	Data collection method	Analysis technique	Positive Consequences
Attenborough and Abbott (2020)[20]	The experiences and views of lecturers in Using storytelling in nurse education	A qualitative study	semi-structured interviews	Thematically	*Promoting international nursing* *Reinforcing nurse's identity* *Role modeling* *Encouraging empathic feelings* *Implications for education and practice.*
Allan *et al*. (2011)[1]	Exploring student nurses' experience in clinical practice at contributing to the theory-practice gap in nursing.	An ethnographic case study design	Fieldwork in clinical practice Interviews with students, mentors, and key stakeholders	Thematically	*contribute to:* *Theory-practice gap* *Clinical learning for nursing students*
Alexander-Ruff and Kinion (2018)[21]	Evaluating the impact of a teaching strategy designed to facilitate nursing students' cultural consciousness beyond the classroom	An intrinsic single case study design bounded by 30 nursing students' perceptions	Observations of students Self-evaluation Student reflections A focus group interviews	An intrinsic single case study	*improve:* *Cultural consciousness* *Clinical assessment technical nursing* *Intercultural communication skills*
Azadi *et al*. (2017)[22]	Exploring patient education through the hidden curriculum in the perspectives of nursing and midwifery students	A qualitative, study	Face-to-face semi-structured interviews	Content analysis	*perception and learning:* *Communication style* *Ethical considerations* *Attention to patients differences* *The role of assignments and training activities* *The rules and regulations of the educational system* *The role of feedback* *The goal of the evaluation* *Educational effectiveness*
Azadi *et al*. (2019)[13]	Determining the role of the hidden curriculum in transferring the skills of patient education among nursing and midwifery students	Cross-sectional study	Questionnaire	Statistical analysis	*Transferring teaching skills*
Dinmohammadi *et al*. (2015)[9]	Introducing the factors and the conditions affecting the professional socialization of Iranian BSN*students	A qualitative study	In-depth semi-structured individual interviews	Grounded theory (Strauss & Corbin 1998)	*Socialization*
Gonzalez *et al*. (2016)[23]	Examining the experiences of nursing students on international exchange programs	A qualitative study	Diaries of students	Content analysis	*Coping with problems* *Critical thinking* *Reflection in clinical action* *Autonomy* *Participation*
Karimi *et al*. (2014)[24]	Using the hidden curriculum to teach professionalism in nursing undergraduates in Iran.	A qualitative design	face-to-face and semi-structured interviews	Content analysis	*Learning professional ethics* *Learning patient-centeredness* *Development of understanding Professionalism elements* *Observational learning* *Learning from feedback* *Inverse learning* *Variety of influence ability strategies*

Contd...

Table 5: Contd...

Authors (year); country	The objective of the study	Design	Data collection method	Analysis technique	Positive Consequences
Kelly (2019)[25]	Educating students on the hidden curriculum in the development of their professional identity.	Pre-post survey design	Reflective narrative	Describe the data within the surveys	*Development of professional identity* *Advocacy* *Empathy* *Caring* *Compassion*
Kumaran and Carney (2014)[26]	Exploring the experience of role transition for newly-qualified nurses from an Irish perspective	A Heideggerian hermeneutic approach	Interview	Van Manen's thematic analysis	*Enhancement:* *Professional responsibility* *Accountability* *Confidence* *Interpersonal skills* *Self-esteem* *Assertive* *Adaptation*
Lee and Yang (2019)[27]	Exploring nursing students' learning and professional socialization during clinical placements by considering the socio-cultural contexts in South Korea	A qualitative study	in-depth and intensive interviews	A constructivist grounded theory	*Professional socialization* *1) Struggling at the bottom of the hierarchy 2) Acceptance and conformity 3) The need for 'nunchi' (in Korean, it means to study the atmosphere and discover the embedded intention of others' behaviour)*
Fang *et al*. (2014)[28]	Exploring the baccalaureate nursing students' perspectives on learning about caring in China	A qualitative descriptive study	focus group interviews	Content analysis	*1) Learning caring* *2) As the incentive to the learning*
McKenna and Williams (2017)[29]	Examining near-peer learner and teacher experiences of participating in near-peer learning and exploring students' engagement beyond the skill being learned.	A qualitative descriptive study	focus group interviews	Thematically	*1) Identifying with their peers, the course and related expectations, clinical placements* *2) Managing difficult situations*
Peterson *et al*. (2018)[30]	Exploring hidden curricula in an interprofessional intensive care unit simulation	A multiple case study design	Anonymous surveys	A qualitative data analysis	*1) Interprofessional rote clarity 2) self-efficacy*
Ramal (2010)[31]	Exploring interrelationships between perspectives of spiritual care held by students and educators in Christian baccalaureate nursing programs, and their perception of organizational climate	A descriptive correlational study	UCFK** Climate scale and SCPS*** Subscale	Statistical analysis	*Positive perspectives of spiritual care*
Raso *et al*. (2019)[32]	Describing how nursing students perceive the nursing profession	A qualitative study	Interview	Content analysis	*Helping relationship, technical role, professional growth, working group, and contradictions and conflicts*

*Bachelor of Science in Nursing, **University version of the Charles F. Kettering Climate Scale,***Self-Care Practices Scale

education, differences and motivation of patients in learning, social and cultural contexts, patient perception, level of literacy and education based on the need and diagnosis of the disease, and flexibility in their educational program should be considered.[22] HC can help transfer nursing and interaction skills in patient education and provide numerous opportunities for nursing students to learn different assessment processes.[13]

International students' experiences of emotional, ideological, personal, and social beliefs as a source of interest to clarify ideological and cultural connections can be the basis of the educational curriculum of health systems.[23] Improving adaptation to changes in international nursing programs can help globalize the knowledge.

Professional and patient-centered care ethics are some of the effects of professionalism, which are transmitted through the hidden curriculum. These learnings in nursing undergraduates are fulfilled through observational learning and feedback from educators, nurses, physicians, patients, and peers in the educational environment.[24] The ability of patients to advocate is one of the important consequences of HC that is essential for graduate students. The professional identity of students is acquired through the development of core values of advocate and empathy for patients.[25] Trust in interprofessional practice is a basic must and in nursing, which is a patient-centered profession, it plays a key role. Trust is also one of the principles of teamwork.[30] Learning to care is one of the positive effects of a hidden or informal curriculum that is achieved through role modeling, reflective practice, critical thinking, and an appropriate learning environment. Therefore, a motivating learning environment can facilitate learning.[28]

Discussion

The current literature presents the benefits and positive consequences of HC in nursing education. For this, previous reports on HC in undergraduate nursing education were reviewed, and the positive consequences were extracted. These consequences were then discussed in three aspects: individual, social, and professional.

Students, like nurses, internalize self-confidence, through which self-assurance in one's abilities leads to a strong desire to care and advocate for patients.[33] Students have fears and anxieties due to a lack of knowledge, experience, and organizational skills. Moreover, they have the fear of competence and taking responsibility in the transition to their new roles in the future.[34] However, Salar *et al*. reported improved self-confidence, independence, and assertiveness in students under the supervision of a support group and an effective learning environment at the bedside. Also, the relationship of students with patients gives a sense of success and self-confidence and renders meaningful learning.[35]

Self-learning is achieved through the hidden curriculum, observation, feedback on critical behaviors, and

thinking, which are necessary for professional development.[24] In a multicultural environment, discussions make learners self-conscious. Engagement in self-reflection and self-criticism and emphasizing self-awareness with a relationship-oriented approach help students reach a deep understanding and become lifelong learners, and consequently, their professional development continues.[36] The professional behavior of instructors, not what they say, determines the students' behavior in the future with patients, colleagues, and students.[37]

Storytelling, due to its nature, relies on tacit knowledge.[38] Telling experiences in the form of a story conveys a range of consequences to learners; it prepares students for the clinical environment and increases empathy and resilience in them. Kelly *et al*.[25] showed that students shared their clinical experiences and helped each other use their core values such as support, empathy, and compassion for patients in clinical situations. The transfer of clinical experiences through the story as an unwritten program connects the theory to the practice.[20,39]

Effective communication styles considering ethical concerns in interactions are learned as part of social behaviors or individual differences.[13,40] Interactions between students and patients, which are part of the hidden curriculum, have substantial impacts on students. Reflective evaluation is one of the skills of patient education that is considered sustainable learning in HC.[22] The ability of the student to communicate with the patient is the result of the relationship between the instructor and the student, and this is beyond the tangible outcome of clinical education.[41]

In the process of socialization of nursing students, different factors and professional conditions have an indirect and hidden effect. Such an effect will be more negative and destructive in the beginning, however, it will gradually show its positive and constructive sides. It was similarly reported that the clinical environment could provide opportunities for students to adapt to these situations and prepare them for the nursing profession.[42,43] Getting advantage of personal factors and achieving resilience, students protect themselves from stressors.[44] Day *et al*.[45] showed that nursing students were highly vulnerable to criticism from their family and friends about choosing a nursing profession. However, from the third year on and owing to internalizing professional values, they stopped reacting negatively to the external criticisms.

Another positive consequence of HC is understanding the importance of "patient-centered" by nursing students. It is a key element of professionalism, and achieving this goal is invaluable in professionalism.[24,46] Lamiani *et al*.[47] extracted the theme of "delegating patients emotional needs to nurses" for medical students in Italy.

Professional identity emerges from intrinsic values with the expectations raised in the university, such

as attitudes, behaviors, work experiences, and role modeling of nurses.[48] The right ethical decision is made based on the formation of professional identity in students. There is a strong reverse correlation between spiritual growth and perception of stress. Professional identity leads to personal spiritual growth and a better understanding of caring abilities in students. It is also effective in developing their professional personality in practice.[49]

The professional identity of students is developed through "invisible" learning, which is achieved via the transfer of clinical experiences in the classroom.[20,50] It was reported that storytelling as "invisible" learning helps to develop a professional identity in students.[51] The transfer of experiences is not just the transfer of pure knowledge but also the values and attitudes embedded in these stories.[52] However, these stories will be affected by the narrators' points of view, values, and attitudes. Conversely, students may receive different perceptions depending on how much they accept these stories. In other words, they receive values after sifting them through their mental filters.[53] Öhlén and Segesten found that historical roots and social factors, including the feminine nursing profession, gender discrimination, the view of society towards nurses, and media, are involved in the formation of professional identity in nurses.[54]

"Professional ethics" is one of the basic principles of professionalism in nursing. It is a key factor that is transferred on to students through the tacit curriculum.[24] However, it was shown that the formal curriculum is one of the best ways to convey and teach ethics.[55,56] Therefore, curriculum developers should consider this in both formal and HC.[57] Especially in nursing education, these values, attitudes, and ethical forms should be further emphasized, as ethics is a basic and inevitable principle in caring.[58]

Previous studies also indicated that learning to care by students is achieved through visible care images, care role models, faculty members, and practicing nurses.[59] Studies show that students move towards professional competence by choosing role models. In addition to the importance of role models for students, these live experiences help them to become "good nurses",[50,60] the importance of which for professionalism is well known.[61] Moreover, negative models are not always deleterious for students, and students may learn even more from these models.[28] In this regard, evidence has been provided by Baingana *et al.*[62] that the repetition of negative learning experiences has a positive effect on students' professional learning. Similar findings were reported by Yeldon *et al.*, who reported that students could recognize a lack of care and distinguish professional values and their contradictions.[41] Consequently, the positive consequences of HC will be more than expected and will include negative experiences on top of positive ones.

Other similar studies in the health care system have acknowledged that through the tacit curriculum, students could learn professional attitudes; values; norms; compassion; integrity; respect for others; response to patients' needs; respect for privacy and autonomy of patients; accountability to patients, society, and the profession; and finally sensitivity and responsiveness to a varied patient population and customs. For professional socialization, clinical nursing educators need to reflect on the environment in which they present the curricula and facilitate professional development.[58,63,64]

In this study, only English-language articles were used, and therefore, it is one of the limitations of this study not to use articles in other languages. We attempted to perform a complete literature review without missing references. However, the possibility of missing references cannot be excluded.

Conclusion

Due to the positive and significant contribution of HC in nursing education, a different perspective on HC and attention to its positive consequences will lead to professional development. Such perspectives are necessary for nursing, which is a developing profession. Identifying and reinforcing the positive aspects of HC is an opportunity to improve the quality of patient care, develop the nursing professional identity, dignity, social image, and professional independence. These findings concerning structural, cultural, and social factors should be considered by educational planners, officials of nursing schools, and educational hospitals. Yet, little seems to be known about these positive consequences, and thus, more research is needed to explore these implications in various cultural and educational contexts. It is hoped that further investigations and evidence-based education in educational planning management and academic-service partnership will be effective in the growth and development of the nursing profession.

Conflicts of interest

Nothing to declare.

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