



Improving Role Modeling in Clinical Teachers: A Narrative Literature Review

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Abstract

Introduction: Students observe role models and learn from them in a variety of educational settings. Although it is known that role models impact the professional and character development of students, some clinical teachers are poor role models. We conducted a review to summarize the evidence that could help clinical teachers promote their role modeling.

Methods: We performed a review search using specific keywords (curriculum, role model*, faculty development, teach*, program* and education) through electronic databases (PubMed, EMBASE, and ERIC). We obtained 320 qualitative and quantitative studies. Having removed the duplicate references, we read 244 titles and excluded irrelevant ones. Eighty-two articles were retained and the abstract of each was read. Finally, 20 articles were included.

Results: According to the results of our review, three major themes were identified: 1) features of a good role model composed of teaching, clinical, and personal-interpersonal skills, 2) self-improvement of role modeling, and 3) faculty development programs.

Conclusions: Role models have a profound effect on the attitudes and behaviors of medical students. It is important for clinical teachers to make an intentional effort to articulate what aspects they are modeling. This study can help the faculty members to be an effective role model. Also, the findings of this review could form the foundation of a faculty development program in order to foster role modeling in clinical settings.

Keywords: Role model; Clinical education; Clinical teacher; Faculty development

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Introduction

Role modeling is an essential component of clinical teaching in medicine, and clinical educators who teach by example serve as role models for medical students. Role modeling can be substantially effective in clinical practice where medical students encounter sophisticated and complicated situations. Since learning from

role models mainly occurs through observation, young doctors who are always observing the role models' behaviors in a variety of settings learn from them all the time (1-3). It has been shown that development of the students' character, professional progress, and career choices are formed under the influence of their role models (3, 4).

In this regard, role models are often defined as admired faculty members who demonstrate the standards of excellence in teaching and clinical practice (2, 3). Meanwhile, it cannot be ignored that there are clinical teachers who lack proper performance. In other words, role modeling is not positive per se, and students may encounter negative role models throughout their clinical rotations (5). The hierarchy of senior doctors, insensitivity to patients, and discriminating among them are examples of negative modeling mentioned in the literature (5-7). Further, some clinical teachers are good clinicians and educators, but the problem is that they cannot demonstrate their abilities. These groups are considered as poor role models from whom students might not learn much (1). Considering the fact that some clinical teachers are poor or negative role models, it seems necessary to encourage them to acquire qualities that make them a better role model (1, 3). Although there has been a growing body of literature explaining the perspectives of students and teachers on role modeling and discussing the influence of role models on students (5, 8-10), it is not clear how we can have better role models. In this study, we aimed at answering this question in order to improve role modeling in clinical teachers, by conducting a review study.

Methods

A review was conducted to summarize the evidence related to promotion of role modeling in clinical teachers. The existing empirical and theoretical studies were summarized to provide more comprehensive recommendations. Initially, we conducted a systematic research of electronic databases in PubMed, EMBASE, and ERIC, in May 2017 which was limited to the studies published after January 1995. In December 2017, the search was updated to find any possible new publication. The keywords included in the search strategy were curriculum, role model*, faculty development, teach*, program* and education. They were integrated with the Boolean operators of 'and' and 'or' to construct suitable search phrases. Also, we used the reference lists in the literature manually.

Following the search, we reached 320 qualitative and quantitative studies. Only papers published in English were included in the review. Articles including editorials, commentary, reviews, and studies irrelevant to the research question were excluded. The duplicate references were removed both automatically and manually. Afterwards, we screened 244 titles and removed irrelevant ones. Eighty-two articles remained for abstract screening, from which 62 papers were recognized as irrelevant, leaving final 20 articles for the review.

All the final 20 papers were analyzed. While one article reported a mixed method research design and four included papers reflected experts' opinions, eleven and four studies were quantitative and qualitative, respectively. The studies' sample sizes varied in number, ranging from as few as 10 participants to a maximum of 52 in qualitative studies, and from 41 to 993 in quantitative studies.

In order to assess the quality of quantitative articles, we used the BEME checklist (11) which is composed of 11 indicators. Each qualitative study was assessed according to the consolidated criteria for reporting qualitative research (COREQ) (12) which contains 32 items. All of the included studies had a basic level of quality.

The obtained papers were read and reread several times in the course of analysis. Data analysis was undertaken using content analysis. We identified text segments that were related to the study aim by open coding, after which we assigned them to themes and subthemes. Finally, the data were coded into a total of three themes. One reviewer performed a preliminary analysis. This analysis was discussed with the other authors and any disagreements were resolved, thereby validating the final results.

Results

This review highlighted three themes, each describing an essential element of role modeling: 1) features of a good role model, 2) self-improvement of role modeling, and 3) faculty development programs. Table 1 presents the final set of papers analyzed in this review. We elaborate on each theme further.

Theme 1: Features of a good role model

Awareness of the features of a good role model in clinical education can help clinical teachers to enhance their role modeling. It is important that educators show deliberate role modeling (1, 5).

A number of investigations which provided us with the characteristics of a good role model reported only undergraduate students' viewpoint (13, 14); two investigations were evaluated by residents (15, 16); one study interviewed the best role models themselves (9); and in three papers both clinicians and learners were included (17-19).

Each of the above-mentioned papers reported a number of features of a good role model, and some of them classified the attributes in specific categories. Summarizing their findings, we came up with three categories which characterized the features of a good role model, including teaching skills (13-16, 20), clinical skills (9, 14, 19), and personal-interpersonal skills (17-19, 21).

Table 1: The literature review summary

Title	Year	Author(s)	Journal/ source	Research methods	Participants	Summary of find- ings	First theme	Sec- ond theme	Third theme
Attitudes and ap- proaches of influ- ential role models in clinical education	1999	Althouse LA, Stritter FT, Steiner BD.	Adv in Health Sci Educ	Qualitative Interviews, Observations	Role models n =10 Final year medical students n = 173	Five themes were extracted: the role models' approach- es to teaching, their attitudes towards teaching and learning, their emphasis on clini- cal competence in their teaching, their roles external to their specific responsibilities, and their general affect.	*	*	
Role modeling: how does it influence teaching in family medicine?	2000	Matthews C.	Med Educ	Mixed method: Qualitative Semi Inter- views whit faculty, Quantitative Filling questionnaire by residents	Faculty members n =9 residents n =27	Professional, personal and educational were introduced as teacher behavior.	*	*	
Faculty de- velopment for teach- ing and evaluating profes- sionalism: from pro- gramme design to curriculum change	2005	Steinert Y, Cruess S, Cruess R, Snell L.	Med Educ	Quantitative Quasi	Faculty members n = 152	Think tanks and workshops were used as key edu- cational methods. This program had an impact on edu- cational practices.		*	*
Teaching rounds: role modeling- making the most of a powerful teaching Strategy	2008	Cruess SR, Cruess RL, Steinert Y.	BMJ	Experts' opin- ion		Being aware of the impact of role modeling, protecting time to facilitate dialogue, reflection, and debriefing with students, and to make the implicit explicit are some strategies that can help to improve role modeling.	*	*	
A good clinician and a car- ing person: longitudi- nal faculty develop- ment and the enhance- ment of the human di- mensions of care	2009	Branch WT Jr, Frankel R, Gracey CF, Haidet PM, Weissmann PF, Cantey P, Mitchell GA, Inui TS.	Acad Med	Quantitative Quasi	Clinical faculty teachers from five institutions n=29 Peer con- trols n=47	Combines experi- ential learning and reflection as meth- ods of teaching in a longitudinal fac- ulty development. This program had a positive impact on participants 'humanistic teaching and role modeling.		*	*

Good clinical teachers likely to be specialist role models: results from a multicenter cross-sectional survey	2010	Lombarts KMJ MH, Heineman MJ, Arah OA.	PLoS ONE	Quantitative questionnaire	Residents n = 549	All teaching qualities were positively correlated with being seen as a role model. Good clinical educators are more likely to be seen as specialist role models for most residents.	*	*
The teacher, the physician and the person: how faculty's teaching performance influences their role modeling	2012	Boerebach BC, Lombarts KM, Keijzer C, Heineman MJ, Arah OA.	PLoS One	Quantitative questionnaire	Residents n = 317	This study suggests that faculty can substantially enhance their role modeling by improving their teaching performance. The amount of influence that the specific domains of teaching have on role modeling differs across specialties.	*	*
Qualitative study of humanization-based nursing education focused on role modeling by instructors	2013	Nouri JM, Ebadi A, Al-hani F, Rejeh N, Ahmadi-zadeh MJ.	Nurs Health Sci	Qualitative content analysis Interviews Focus groups	Focus group whit nursing students n =22 Interview whit nursing instructors n =7	Attempt to promote emotional development, attempt to promote spiritual development, and attempt to promote intellectual development were three main themes emerged during data analysis.	*	*
Role models in primary care education: inescapable but forgotten?	2013	Holden J.	Educ Prim Care	Experts' opinion		Availability, enthusiasm, explicitly demonstrating actions, team working, explicit values and courtesy are some aspects and attributes of role modeling.	*	*
Efficiency is not enough; you have to prove that you care: role modelling of Compassionate care in an innovative resident-as-teacher initiative	2013	Blanco MA, Maderer A, Price LL, Epstein SK, Summergrad P.	Educ Health	Quantitative	Residents n =41	This program employed by focused on group discussion, reflection and resident's demonstrations or failures to demonstrate compassionate care with peers and had a positive impact on resident's perceptions of their relationship-centered skills.		*

Faculty development to enhance humanistic teaching and role modeling: a collaborative study at eight institutions	2014	Branch WT Jr, Chou CL, Farber NJ, Hatem D, Keenan C, Makoul G, Quinn M, Salazar W, Sillman J, Stuber M, Wilkerson L, Mathew G, Fost M.	J Gen Intern Med	Quantitative Quasi	Clinical faculty teachers from eight institutions n=52 Peer controls n=94	In this study, was employed experiential learning and critical reflection for faculty development program during 18 months and was enhanced humanistic teaching and role modeling.	*	*
Role modeling as a teaching strategy for the novice nurse in the emergency department	2016	Doherty KQ.	J Emerg Nurs	Experts' opinion		This study emphasized the importance of role modeling in the clinical setting and expressed using role modeling in the emergency department for nursing students.	*	*
How to be a good role model	2016	Day-Calder M.	Nurs Stand	Experts' opinion		Some strategy to be a good role model: respect others by demonstrating compassion, honesty and integrity, work as part of a team, keep learning, strive for high standards at all times, have a good communicate with other staff.	*	*
The hidden process of positive doctor role modeling	2016	Passi V, Johnson N.	Med Teach	Qualitative Grounded theory	Focus group whit medical students n = 52 Interviews whit consultants n =25 Semi structured interviews after clinics whit consultants n =5 and medical students n =5	The process of positive doctor role modeling included tow phase: an exposure phase followed by an evolution phase. The exposure phase involves demonstration of the professional attributes of the role model and The evolution phase involves seven stages undertaken by the modeler.	*	*
Medical students' perceptions of clinical teachers as role model	2016	Haider SI, Snead DR, Bari MF.	PLoS One	Quantitative Developing a questionnaire	Medical students from year one to year five n = 535	Students indicated teaching and facilitating learning, patient care, and continuing professional development as very important.	*	

Role modelling in medical education: the importance of teaching skills	2016	Burgess A, Oates K, Goulston K.	Clin Teach	Quantitative questionnaire cohort	Medical students who had completed year 1 n = 301	Students' ideal attributes of role models included excellence in clinical knowledge and skills, and personal attributes.	*	
Resident role modeling: "it just happens"	2016	Sternszus R, Macdonald ME, Steinert Y.	Acad Med	Qualitative Phenomenology interview	Residents n =14	Residents learned about role modeling from watching their positive and negative role models and Their awareness of the being a role model can help to the promotion of clinical education.	*	*
Evaluating a novel resident role-modeling programme	2017	Sternszus R, Steinert Y, Bhanji F, Andonian S, Snell LS.	Clin Teach	Quantitative Quasi	Residents n =38	Flipped-classroom and simulation approaches were used to teach role modeling. This program positively influenced the participants' perceptions of their role modeling abilities.	*	*
A multi-institutional longitudinal faculty development program in humanism supports the professional development of faculty teachers	2017	Branch WT Jr, Frankel RM, Hafler JP, Weil AB, Gilligan MC, Litzelman DK, Plews-Ogan M, Rider EA, Osterberg LG, Dunne D, May NB, Derse AR.	Acad Med	Quantitative	Faculty members n= 993	The teaching methods employed in a longitudinal faculty development program for strengthening humanistic teaching and role modeling, were reflective and experiential learning and the results show that this program was succeeded.		*
Role modelling: moving from implicit to explicit	2017	Pinard AM, Savard I, Cote L.	Clin Teach	Quantitative	Faculty members n= has not been stated	A workshop with clinical teachers and a series of cartoon-type posters were used to demonstrate the importance of highlighting explicit role modeling. This program has not been formally evaluated, it's difficult to say whether the goals of the project were achieved.	*	*

Considering the teaching skills of a good role model, different studies have mentioned a variety of features, including using a student-centered approach (14, 22), facilitating the students' learning (13, 18), encouraging teamwork (9, 21), engaging the students into critical and creative thinking opportunities (9, 18), as well as providing them with a positive learning climate (9, 13, 15, 16). A number of papers in this category moved beyond classroom environment and stated the important characteristics of role modeling in clinical settings. For instance, engaging the learners in thinking about patients (9, 14), providing students with opportunities to interact with patients (9, 14), planning in advance for bedside teaching by selecting appropriate patients (9, 14), being responsive to the needs of students at different levels (14), providing students with effective feedback, encouraging reflection, and creating opportunities of reflection in students (1, 9, 15, 16, 23) have been indicated by some authors as the features required for a good clinical teacher.

Regarding the second category, there are many clinical skills associated with positive role modeling. Excelling in clinical knowledge and skills, and demonstrating them to students is one of the most important attributes mentioned within the literature of medical education (1, 9, 14). Role models are known as very competent clinicians who are capable of effective clinical reasoning and deliberate decision making (1, 14). Some investigations indicated that having good communication skills and empathy with patients are also important elements in role modeling (1, 13, 14, 22). Several researchers also emphasized professionalism (13, 15, 16).

With regard to the third category, personal-interpersonal skills, the importance of establishing and maintaining good relationships with patients, colleagues and students (9, 14, 19), and having effective interpersonal communications were highlighted in papers (1, 22). Role models exhibited personal traits described by some researchers as availability, enthusiasm, courtesy, warmth, compassion, honesty, integrity, and patience (1, 9, 14, 19, 21, 22). Furthermore, one article investigating the spiritual traits for role modeling mentioned "faith in God" and "adherence to ethical principles" among Muslim people (18).

Theme 2: Self-improvement of role modeling

We found some strategies in our literature review which are considered to be helpful when a faculty member applies them to be a better role model. These strategies include observing colleagues who are admired by students (22),

demonstrating clinical competence (1, 9, 21, 24, 25), keeping protected time for teaching (1), displaying positive attitude to what has been modeled (1, 26), reflecting on the performance (1, 22, 26), and showing enthusiasm toward their work (17, 18, 21).

However, a considerable number of studies have mentioned that the most important exercise for the clinical educator, if they want to be known as good role models, is being aware of themselves as a role model. If clinical educators are aware of being a role model and play this role unequivocally, the modeling process will be more successful (1, 2, 9, 13, 26, 27).

Additionally, it is highly advised that faculty members have a plan for role modeling and be explicit about their characteristics as a positive role model on every possible occasion (1, 26, 27). Role models should explicitly demonstrate their actions and explain to the students what they are performing and for what reasons. They should also adopt an explicit teaching strategy including what to do before, during and after a structured observation of a clinical teacher by the students.

Theme 3: Faculty development programs

Another theme achieved from data analysis was related to the faculty development programs and methods used for promoting role modeling.

Some of the studies targeted residents and taught them how to be a good role model for undergraduate students. As an example, in a research by Sternszus et al. (2017) which designed, implemented, and evaluated a program to teach residents, flipped-classrooms and simulation approaches were used (26). Also, Blanco et al. (2013), who employed a resident-as-teacher program, used group discussion and facilitated reflection; they also used the resident's demonstrations or failures to teach and practiced compassionate care through role modeling (28). In addition to the programs conducted for residents, there have been programs for faculty members. In a series of papers, Branch et al. (2009, 2014, and 2017) described their experience on holding longitudinal faculty development programs for promoting role modeling and humanism. In this program, experiential learning of teaching skills was combined with critical reflection using reflective discussions. All these programs were accomplished successfully and had a positive impact on the participants' humanistic teaching (4, 23, 24). Pinard et al. (2017) planned two activities to train the clinical teachers the aspects of role modeling during six weeks: a workshop and a series of cartoon-type posters (27). Other appropriate methods for promoting role modeling

in the literature reviewed were as follows: flip classroom (26), videotapes (26, 28), observing role models (2, 26), electronic education (26), discussing scenarios (23-26), case discussion (4, 27, 28), lecture (4, 25), role play (23, 28), action plan (25), reflection (4, 23, 24, 28), and journal entries (28).

Discussion

To the best of our knowledge, this is the first study which comprehensively reviewed the literature in order to provide an integrative description of how we can promote role modeling in clinical faculty members. Through this review, it is possible to clearly describe the content required for promoting role modeling among faculty members.

In our first theme, we found many articles which had gathered data from the perspective of students or faculty members, and used qualitative or quantitative methods to present detailed information about the features of a good role model. While classifying these features in three categories, we found that other reviews had consistently stated that teaching skills, clinical skills, and personal qualities were critical for being an excellent role model (3, 5, 29). There were three reviews on role modeling in medical education.

Three main domains of positive role models were found in a BEME systematic review as follows: teaching skills, clinical attributes, and personal qualities (5). These were confirmed by Jochemsen-van der Leeuw (2013) in a systematic review and Mirhaghi A (2015) in a review (3, 29).

Secondly, we sought for strategies for self-improvement of role modeling and strived for improving teaching skills, clinical skills, and personal-interpersonal skills. Should faculty members use these strategies, they will enhance their abilities to serve as a better role model. Considering our second theme, our review findings have added to the current literature by explaining the useful strategies for enhancing and improving role modeling. While some of these strategies have not been well-recognized in previous studies, two important ones are in accordance with the experts' opinions.

Note that encouraging faculty members to develop a conscious awareness of role modeling and understand how their actions influence the formation of the learner's professional identity can help them to be more explicit about the behaviors they wish to be modelled (30, 31). In addition, Mann in a book entitled "faculty development in the health professions" has emphasized that role modeling should be explicit in clinical teaching,

and raising awareness of being role models can help the faculty members to develop their ability (32). Hence, it is necessary for educators to make a deliberate effort to articulate the aspects and areas they are modeling.

Finally, we tried to find effective educational programs which can be pursued by organizations to promote role modeling among clinical educators. We came up with a few articles that described their experiences. These trainings were usually done in the form of faculty development programs or residents as teacher programs. The methods of educating the role models obtained from our review have been similar to those highlighted by Maudsley including videotapes, role playing, case studies, learners' experiences, and focus groups (31). Note that, according to the existing literature, it cannot be concluded which methods are the best for fostering role modeling in faculty members. By conducting randomized studies, one can compare the effectiveness of the methods which might lead to more accurate results. It is also worth mentioning that all clinical teachers should not be treated the same in terms of educational programs. Earlier, we made a distinction between poor and negative role models. The important point is that the faculty development programs might not be the same for these two groups. While raising awareness of being a role model is the key element for the poor group, reinforcements of clinical and educational competencies can work for the negative group.

The main limitation of this review was that we only included studies in English. It is also possible that a number of studies have not been found by the electronic search. Nevertheless, we strongly believe that the results of this literature review can be used to support future studies on the development programs that foster role modeling. Thus, we suggest that our findings could form the foundation of a training course for clinical teachers based on the most important attributes of positive role models, strategies for self-improvement of role modeling, and methods being used by organizations for promoting role modeling. Our findings may also have implications for researchers who tend to explore the efficacy of educational methods to promote role modeling. In addition, it could be examined if the attitudes and behavior of a role model should be investigated at the time of recruitment and selection, or by implementing strategies and training courses, a clinical teacher can demonstrate the desired behavior.

Conclusion

Role models have a profound effect on the attitudes and behaviors of medical students. Since

all educators are not good role models, helping clinical teachers become a better and effective role model is necessary. The findings of this review could form the foundation of a faculty development program in order to foster role modeling in clinical settings.

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