Short Research Report

Peer-assisted learning in the prehospital educational setting in South Africa

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Background. Clinical learning is an important component of health professions training. Peer-assisted learning (PAL) involves students who work in the clinical learning domain, often with their peers. There is a paucity of literature related to PAL in the South African (SA) context.
Objectives. To explore the perspectives of SA prehospital emergency care personnel regarding PAL.
Methods. A cross-sectional design used a purpose-designed online survey to gather data from qualified prehospital emergency care personnel. Participation was invited by emailing persons registered on a privately managed database. The questionnaire was available for 2 months after the initial email had been sent. The questionnaire used Likert-type scales to measure participant perceptions of specific aspects related to PAL. An open-ended question gathered data on participant perceptions of PAL.
Results. Participants recognised PAL as a contributor to improved theoretical and practical academic performance, increased confidence, better debriefing and creating a platform for future relationships, both professionally and socially. Most participants reported a positive relationship with their PAL partners. The presence of a PAL partner made participants more comfortable during hostile or unsafe situations.
Conclusions. PAL was positively viewed by participants and the environment created by PAL was perceived to enhance learning, debriefing and confidence and to improve theoretical and practical assessment results. We recommend that students are included in the PAL partner allocation process. Further research should include PAL in a larger spread of health professions in the African setting.

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Topping[1] defines peer-assisted learning (PAL) as 'the development of knowledge and skill through active help and support among status equals or matched companions'. PAL is often used in the clinical learning environment, where a student works with a fellow student under direct supervision of an appropriately qualified clinician. It is perceived to be a beneficial process and has been described among paramedic, midwifery and nursing students.[2]

The educational philosophy of PAL includes mutually beneficial learning activities. The concept of PAL aims to improve the learning environment through social interaction of students.[2,3] PAL partnerships usually comprise two equal partners who both benefit from the experience. Consequently, delegation of tasks, decision-making and conflict resolution should be a joint effort without predetermined authority from either partner.[3,4] PAL partners should ideally be from similar social groups and should be equal in as many aspects as possible.[1] The peer who provides assistance should not be a professional teacher or expert and it is critical that both parties benefit from the PAL experience.[1,2,4-6]

PAL is perceived to unmask areas of uncertainty, leading to better understanding and deeper learning.[4,5] The peer learner benefits from increased self-confidence and a noted increased motivation to learn, resulting in better performance during examination.[3,6] PAL has been shown to improve academic results in clinical examinations and to increase confidence levels in participating students.[4] Some areas relevant to the prehospital domain where PAL has been particularly effective are clinical skills acquisition, problem-solving, clinical reasoning, critical thinking, professional responsibility and teamwork.[3]

A literature search revealed a paucity of literature related to PAL in the SA prehospital context. It is necessary to determine opinions and experiences of healthcare professionals related to PAL to inform future practice.

The objective of this study was to explore the perspectives of SA prehospital emergency care personnel regarding PAL.

Methods

Study design

A cross-sectional, purposive design made use of an online questionnaire to gather data from qualified prehospital emergency care personnel. The SA prehospital emergency care profession is a multi-tiered structure that includes both formal (National Qualifications Framework (NQF) aligned) and informal (non-NQF aligned) qualifications. This study focused specifically on Health Professions Council of SA (HPCSA)-registered personnel broadly classified as advanced life-support providers. They were on the Emergency Care Technician (ECT), Paramedic (ANT) or Emergency Care Practitioner (ECP) registers of the HPCSA, respectively. The ECT register included personnel with a 2-year diploma qualification, and the ANT register those with a 3-year national diploma or those who had followed a 9-month critical care assistant course. The ECP register included personnel with either a Bachelor's degree in technology or a Bachelor's degree in health sciences. The decision to use only advanced life-support providers was due to the longer periods of time that they spent in the PAL clinical domain during their studies. We elected to use only qualified staff, as they would have had sufficient experience to contextualise PAL related

to their clinical practice. The questionnaire was kept open for 2 months. During this period, 3 reminder emails were sent to persons on the mailing list. After 2 months, the questionnaire was closed and access was no longer possible.

Instrument

Data were collected from 50 prehospital emergency care personnel using a purpose-designed questionnaire comprising 18 Likert-type questions and a final open-ended question that related to choice of PAL partner. Likert-type questions used a 3- or 4-point scale and were used to measure participant levels of agreement with statements related to PAL. The questions aimed to explore participant perceptions of the effect of PAL on their academic results and confidence, as well as on clinical debriefing and certain aspects of the clinical environment. Further questioning related to participants' general perceptions of PAL and aspects that had the potential to improve PAL. An open-ended question allowed participants to express their opinions related to PAL in their own words. The online version of the questionnaire was hosted on the SoGoSurvey (SoGoSurvey Inc, USA; www.sogosurvey.com) online platform. We addressed aspects related to reliability and validity by considering and wording each question in relation to the identified literature. Validity was addressed by subjecting the questionnaire to scrutiny by two academic committees. As an additional measure, potential participants were given the opportunity to contact LG. Potential participants were invited by email using a privately managed, confidential database of advanced life-support providers that comprised 436 advanced life-support personnel whose contact details were not made available to us. The email included an introductory information brief stipulating voluntariness, anonymity of participation and a link to the survey. Data were not available that linked numbers of active personnel to numbers of personnel registered in each HPCSA registration category, and could, therefore, not be used to determine a recommended sample size.

Data were imported into an Excel 2016 (version 16) (Microsoft, USA) spreadsheet and standard calculations were used to determine frequencies. The responses to the open-ended question were read and reread by both LG and AM and analysed using thematic analysis for emerging themes.

Ethical approval

Ethical approval for the study was obtained from the University of Johannesburg's Faculty of Health Sciences Research Ethics Committee (ref. no. REC-01-166-2016).

Results

Participants submitted 50 questionnaires using the online platform. We were unable to confirm delivery of emails and could therefore not calculate

Table 1. Participant perceptions of peer-assisted learning

	Strongly disagree, % (*n*)	Disagree, % (*n*)	Agree, % (*n*)	Strongly agree, % (*n*)	Total, % (*n*)
Effect of PAL on academic results and confidence					
PAL improved my theoretical assessment performance	2 (1)	18 (9)	58 (29)	22 (11)	100 (50)
PAL improved my practical assessment performance	2 (1)	26 (13)	52 (26)	20 (10)	100 (50)
PAL promotes academic discussions and practical learning	4 (2)	22 (11)	52 (26)	22 (11)	100 (50)
PAL increased my confidence	4 (2)	18 (9)	60 (30)	18 (9)	100 (50)
PAL gave me more confidence in delegating tasks	8 (4)	10 (5)	64 (32)	18 (9)	100 (50)
Effect of PAL on debriefing and practice					
I was generally more assertive than my practical partner	4 (2)	30 (15)	42 (21)	24 (12)	100 (50)
I found it easy to assume the role of submissive partner when my partner was in charge of a call	10 (5)	26 (13)	54 (27)	10 (5)	100 (50)
I found it more comfortable discussing calls and debriefing with my practical partner, as we had the same level of knowledge and competency	2 (1)	22 (11)	36 (18)	40 (20)	100 (50)
A practical partner's presence made me feel more comfortable during potentially hostile and unsafe situations	4 (2)	22 (11)	52 (26)	22 (11)	100 (50)
General perceptions					
PAL was a positive experience	2 (1)	10 (5)	58 (29)	30 (15)	100 (50)
PAL is generally beneficial during clinical training	2 (1)	8 (4)	62 (31)	28 (14)	100 (50)
I would advise any student to have a practical partner	2 (1)	14 (7)	58 (29)	26 (13)	100 (50)
Having a practical partner made clinical practice shifts more enjoyable	2 (1)	8 (4)	50 (25)	40 (20)	100 (50)
I had a good relationship with my practical partner	2 (1)	6 (3)	44 (22)	48 (24)	100 (50)
PAL allows for future professional relationships and even friendships	0 (0)	6 (3)	52 (26)	42 (21)	100 (50)
It is best for practical partners to be allocated by the institution	22 (11)	44 (22)	28 (14)	6 (3)	100 (50)
	Very easy, % (*n*)	**Easy, % (*n*)**	**Difficult, % (*n*)**	**Very difficult, % (*n*)**	**Total, % (*n*)**
The transition from working with a practical partner to working alone once qualified	33 (16)	31 (15)	35 (17)	2 (1)	100 (49)*

PAL = peer-assisted learning.
*No response (2%; *n*=1).

a response rate. There were 27 ECP, 17 ANT and 4 ECT participants who completed the demographics section; 41 (85%) were males and 7 (15%) females. The median age was 32 years and the median working experience was 5 years.

Partner characteristics

Most participants (68%; *n*=34) did not have any gender preference, 28% (*n*=14) indicated that they preferred a male PAL partner and 4% (*n*=2) preferred a female PAL partner. Both participants (100%) who preferred a female partner were men and of the 14 who preferred a male partner, 2 (14%) were females and 12 (86%) males. Seventy percent (*n*=35) indicated that they had no preference with regard to the age of their PAL partner, 18% (*n*=9) preferred same-age partners, 8% (*n*=4) preferred older partners and 4% (*n*=2) preferred younger partners. Results of responses related to the effects of PAL on academic results and confidence, debriefing and practice, and general perceptions of PAL are depicted in Table 1.

Open-ended responses

Forty participants (80%) provided answers to the open-ended question. The dominant emerging theme related to Topping's[1] description of PAL was as follows:

> 'People from similar social groupings who are not professional teachers help each other to learn and learn themselves by teaching.'
>
> 'Someone who is not afraid to speak up and challenge you to become better at your skills.'
>
> 'A partner must be able to point out your weaknesses and assist in strengthening [them].'
>
> 'Choose someone on the same level. For [example] if you are using taxis choose [someone] who uses taxis.'
>
> 'Someone you have a decent relationship with where trust is either already built or would be easy to [get].'

Discussion

Equality is a critical element of PAL.[1,4,5] Participants did not indicate a preference for gender or age of PAL partners, implying that the perception of equality between PAL partners may be independent of age and gender. Equality forms the basis of a trust relationship and most participants indicated that they trusted their PAL partner. There was general consensus that PAL partners should be self-chosen, which linked directly to the similarity and trust characteristics identified as requisites by participants. The perception that PAL partners improved the feeling of safety during hostile or unsafe situations reinforced the value of having a PAL partner who can be trusted.

Improved academic performance, cognitive development and psychomotor skills have been linked to PAL.[3,7] Participants in this study confirmed that PAL improved theoretical and practical assessment results. Participants indicated that PAL was generally a positive and enjoyable experience, which made clinical learning more pleasant, and that it was a potential source of future professional relationships and friendships. This is congruent with McLelland *et al.*,[4] who showed that the PAL environment should facilitate an effective setting for learning and professional development. Participants in the current study indicated that PAL improved their assertiveness, self-confidence and professional development. They also indicated that they were able to assume a more submissive role when they were not in charge. This too is an important characteristic in the emergency situation, where not everyone can be in charge. These characteristics are associated with a reflection on positive growth and development that PAL seeks to encourage.[3]

PAL directly contributes to improved communication and professional development.[4] Debriefing is an important mechanism in professional development, and PAL has shown potential to create a safe space in which there may be an improved willingness to share information and for reflection.[2,7] Fellow students have been shown to exhibit great sensitivity and empathy with regard to providing feedback to their peers.[8] The participants in this study echoed the view by indicating that they were more comfortable discussing cases and debriefing with their PAL partners than they were with other practitioners, suggesting that PAL partners may serve as an important source of debriefing. This could include feelings and emotions that are uncomfortable to discuss with their clinical supervisor.

Conclusions

PAL was viewed positively by participants. The environment created by PAL was perceived to enhance learning, debriefing and confidence and to improve theoretical and practical assessment results. We recommend that students are included in the PAL partner allocation process. Further research should include PAL in a larger spread of health professions in the African setting.

Declaration. None.

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Author contributions. LG and AM were responsible for conceptualisation of the study and compilation of the questionnaire. LG co-ordinated data collection, supervised by AM. LG and AM analysed the data, and drafted and revised the manuscript.

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Conflicts of interest. None

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