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Perceptions and coping strategies of junior doctors in a Paediatric Emergency Department in Singapore

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Abstract

Introduction: Perceptions towards the working and learning environment as well as coping mechanisms have been studied across different healthcare sectors. They have shown to reduce stress and burnout. However, perceptions of the work environment in the Emergency Department (ED) setting have not been studied in depth. The literature surrounding coping mechanisms also mostly focuses on their impacts rather than the mechanisms utilised. In addition, these were often investigated using surveys. This study aimed to use a phenomenological approach to explore the perceptions and coping strategies of junior doctors working in a paediatric ED.

Methods: Sixteen junior doctors working in the Paediatric ED were recruited. Semi-structured interviews were conducted after conducting literature reviews. Data was collected until saturation point. All interviews were recorded and transcribed verbatim manually and subsequently analysed.

Results: The greatest fears of junior doctors starting their paediatric emergency posting were lack of knowledge due to inexperience in the subspecialty; fear of the work environment due to unfamiliarity as well as workload and the intrinsic high-stress environment. The main coping strategies were ensuring clinical safety, obtaining psychosocial support from loved ones and colleagues, and placing focus on spirituality and wellbeing.

Conclusion: In this study, the perceptions and coping strategies of the junior doctors in the Paediatric ED were explored. The findings from this study will help to structure and improve the support given to future junior doctors who rotate to the department as well as better orientate them to allay their pre-conceived notions.

Keywords: *Coping Behaviours, Perceptions, Paediatric Emergency Department, Stressors, Interviews*

Practice Highlights

- Participants worried about knowledge, workload and responsibilities prior to starting their posting.
- Perceptions were mostly of an anticipatory nature, influenced by seniors' past experiences.
- In work, support from senior staff was helpful in allaying their fears and increasing patient safety.
- Participants felt psychosocial support, spirituality and wellness were useful coping strategies.
- Maladpative coping strategies did not come up as a main theme in our study.

I. INTRODUCTION

Perceptions toward the work and learning environment can strongly impact experiences and even lead to large amounts of stress (Chan et al., 2016). A poorer perception of the learning environment is also associated with greater levels of burnout (Chew et al., 2019; Sum et al., 2019). Conversely, a positive perception of the work environment helps to alleviate stress (Abraham et al., 2018). Workers' perception of their work environment contributes significantly to their overall experiences.

Main factors contributing to stress in the ED include heavy workload and critically ill patients. Workplace violence, trauma, abuse and morbidity also add to the stress and burnout experienced (Burbeck et al., 2002; Copeland & Henry, 2018; Healy & Tyrrell, 2011; Xu et

al., 2019). In the paediatric setting, added stressors include dealing with sexual abuse and non-accidental injury as well as death and the inability to provide optimal care for children (Alomari et al., 2021; Basu et al., 2016; Durand et al., 2019; Greenslade et al., 2019; Shanafelt et al., 2012; Watson et al., 2019).

Given these significant stressors, individuals utilise different coping mechanisms to mediate these experiences (Howlett et al., 2015).

Some coping strategies discussed in previous studies include socialising with friends and family (Gribben et al., 2019). Focusing on physical wellbeing, clinical variety, reflectivity, and organizational activities were also helpful in alleviating burnout in other areas of healthcare (Barham et al., 2019; Koh et al., 2015).

Several studies also found that the use of maladaptive coping mechanisms, such as alcohol use and self-blame increased with the frequency of burnout (Jackson et al., 2016; Oreskovich et al., 2015; Ryali et al., 2018; Talih et al., 2018).

While many studies studied stressors and the effectiveness of the coping mechanisms used, the actual components of coping mechanisms were not well studied. In studies that did look at coping mechanisms and their effectiveness, these studies were also often done via the survey method and were only evaluated on the surface.

Most studies looked at healthcare workers in general. Few studies looked solely at the doctor population. This makes conclusively evaluating the doctor component of coping mechanisms and their effects difficult.

While other studies looked at an adult emergency perspective, there were also few studies looking at the paediatric ED. It has been reported that dealing with paediatric emergencies causes more stress compared to their adult equivalents. Some of the contributing factors are related to the nature of working with children. These, in itself, are unmodifiable (Guise et al., 2017). Therefore, it is important to study how the paediatric context can affect the experiences of the doctors who care for them.

In our study, we studied the perceptions of junior doctors at the beginning of their posting. We subsequently explored their coping mechanisms in the Singaporean context.

The element of stress in the ED among junior doctors is significant as the ED is often part of many specialist training pathways (Mason et al., 2015). During the time of training, the doctors are still learning and developing. Hence, many doctors experience sharp learning curves during their postings. This brings about more stress (McPherson et al., 2003). In some cases, the stress can even lead to doctors thinking about leaving clinical practice altogether (Degen et al., 2014).

In the Singaporean context, paediatric emergency postings are part and parcel of speciality training for junior doctors (especially for those in emergency medicine and family medicine training). Because of this, junior doctors spend the majority of their paediatric postings in the paediatric emergency. As such, a Singapore-specific context would give light on the challenges of this sizable group.

The nature of the healthcare system in Singapore is unique. Up to 60% of the consultations in the paediatric ED were for nonurgent conditions due to the overall perception of the severity of symptoms and parental preference towards paediatric specialist facilities (Ganapathy et al., 2015). This would lead to an increased workload for the paediatric ED. The distribution in workload may also differ compared to a global perspective, with the load of severe paediatric trauma in Singapore being low (Pek et al., 2019).

These subtleties in the paediatric ED in Singapore can influence the experiences of junior doctors differently. With these key differences in mind, we aimed to investigate the perceptions of junior doctors towards their paediatric ED posting in Singapore and how they subsequently coped with the challenges faced.

II. METHODS

A. Design

In this study, we examined the experiences of doctors in their paediatric ED rotation and how their thoughts and actions influenced their stress during their rotation. We deemed the phenomenological approach to be the most appropriate for this study. Phenomenology is defined as the study of how individuals see and experience a phenomenon and what this means to the individuals in their own experience (Neubauer et al., 2019; Smith, 2021).

The approach we chose was that of an interpretive phenomenological analysis in which we aimed to investigate the experience through the participants' own experiences and perceptions. With the help of the various

participants' accounts, themes and ideas bound by their experiences were explored (Tuffour, 2017).

B. Methods

The members of the study performed a preliminary literature review on the topic and explored plausible methods of data collection. The study team decided on semi-structured interviews as it promotes sharing and would allow for sufficient privacy.

The team members included a senior consultant, a staff physician and a medical officer. Together, after discussions about concepts that the team was keen to explore, an interview guide was drawn up.

Subsequently, a proposal was submitted to the Hospital Centralised Institutional Review Board for approval.

One-on-one interviews were conducted with the participants by investigator A, a medical officer who was rotating within the department at the time of the study. This was done to reduce the power differential. Interviews were conducted at a location and time convenient to the participant.

Prior to the interviews, consent was sought and all interviews were recorded and subsequently transcribed verbatim. The interviews were conducted over a 1-month period in December 2019.

Questions were open-ended and allowed participants to share ideas that they were keen to raise with no restrictions to the topics brought up. Interview questions were tweaked alongside subsequent interviews so that they were easier to understand and would encourage sharing. Additional questioning in subsequent interviews was adopted to improve clarity. For example, one of the questions that featured early in the interviews was 'What are some of the coping mechanisms you use?' During subsequent interviews we noticed some participants utilised coping mechanisms before work to prepare themselves, some used other strategies during work to cope with the stress, while others dealt with their stressors after getting off work. We tweaked the question to include 'during the shift or outside of the shift' to help participants widen their perspective about certain coping methods they may have used but were not immediately conscious of when answering the questions. No new questions referring to particular themes were inserted although interviewers were aware of the themes that had been highlighted in previous interviews. This was done in addition to the initial interview guide and ensured the broad nature of questioning was not compromised and the breadth of interviews was maintained.

Themes were identified from the interviews until data saturation was reached. Data saturation was noted at the 12th interview. The team continued to learn from subsequent interviews, with interviews contributing additional depth to the issues explored. Further interviews were conducted to confirm that no new theme was being identified.

The interviews were then transcribed and de-identified. They were subsequently reviewed by 2 reviewers (Investigator A and Investigator B). Data was analysed using a step-by-step thematic analysis method (Braun & Clarke, 2006). Investigators A and B independently analysed the transcripts, identified themes and later reported the common themes. These themes were discussed for concurrence. When any differences in opinion arose, these would be reviewed by investigator C to resolve any disagreement.

C. Setting

The research was conducted within the Paediatric ED in KK Women's and Children's Hospital, a tertiary paediatric hospital.

The Children's Emergency of KK Women's and Children's Hospital is the largest paediatric emergency unit in Singapore. During the time of the interviews, the department treated over 400 patients daily. The Children's Emergency sees all children under the age of 18 years for all medical complaints.

The department is staffed by over 60 junior doctors at a single time. These junior doctors come from various backgrounds and pass through the department for varying amounts of time. Thus, their experience can be very heterogeneous.

The job scope and responsibilities of all the junior doctors are primarily the same despite the different levels of experience. They are expected to treat the patients that present to the ED. These doctors can seek advice from the senior doctors who are on the ground. However, for the majority of the time, they would be tasked to treat patients on their own.

D. Participants

Participants were recruited through an email that was circulated to all junior doctors in the department. Participation in the study was voluntary and participants were not remunerated.

A total of 16 junior doctors were recruited and interviewed over a 1-month period. Due to the busyness of the ED and the limited time frame in which the interviews were conducted, only 16 interviews were conducted. Convenience sampling was chosen for the sampling method. The first 16 volunteers who had volunteered were interviewed. However, it was noted that saturation point was reached prior to the conclusion of the interview process.

The variety within the ED was well represented. The details of participant breakdown are elaborated on in Table 1.

Experience & Training Information				
Mean post-graduate year, 3.6 (2-6)* Average duration of posting in months, 5.7 (3-12)*				
	Emergency Medicine	Family Medicine	Paediatric Medicine	Not in a training program at time of study
Training Program (n=16)	5	2	1	8
Epidemiological Data				
	Chinese		Indian	
Race (n=16)	13		3	
	Male		Female	
Gender (n=16)	6		10	

Table 1: Characteristics of Participants

*Mean (Range)

E. Analysis

All transcripts were reviewed by JT and SG. Coding was done manually using Microsoft Word. During the process, themes were identified and substantiating quotes were recorded. Iterative data analysis was done so that interviewers were aware of themes that were previously mentioned. However, the themes were not specifically explored unless brought up by the subsequent interviews.

III. RESULTS

Through the interviews, we collected information about the experiences within the ED. Interview transcripts collected as a part of this study are openly available on Figshare at

http://doi.org./10.6084/m9.figshare.19204761 (Tan et al., 2022). From the interviews conducted, the experience was divided into the initial perceptions and coping mechanisms.

A. Perceptions

The perceptions of the paediatric emergency rotation in the ED were largely contributed by the experiences of the individuals who had previously worked in the department. This was achieved through consultation with friends or colleagues prior to starting the posting to find out more about the rotation.

"Before I started doing the posting, I asked some people who have done or were currently doing the posting…to find out what I was getting myself into"

(P7)

The broad themes elicited about the perceptions and inherent worries of the incoming medical officers were that of being unprepared due to 'inadequate knowledge' or 'unfamiliarity', as well as the impending 'work load' and 'work factors'.

1) Fear of subject matter: Participants who were not familiar with the paediatric content were worried about their competency and adequacy in treating children. Oftentimes, participants cited that exposure to the paediatric subject matter may have been inadequate or dated and as a result, resulted in fears of being unprepared or being unsafe.

"I've not done any paediatric postings before as a doctor so that was a bit worrying."

(P4)

"I've never dealt with paediatrics before so it was quite scary to come onto the posting"

(P14)

In participants who did however have some background in paediatrics, additional fears of specialised emergency knowledge also emerged with participants feeling nervous about the posting.

"Some of the things included technical skills such as doing back slabs, manipulation and reduction, and I guess managing trauma and more complicated acute conditions such as diabetic ketoacidosis and haemophilia and oncological and metabolic related conditions."

(P11)

"When I started I learnt about resuscitation cases which I felt was a bit nerve-wracking to start with"

(P12)

2) Unfamiliarity: Even though participants may have been at different time points in their careers during the posting, they were all expected to perform mostly the same duties and responsibilities. As a result, a section of the participants cited worries about adjusting to the roles and environment that they may have been new to. These included concerns about being new to the system used. These added to the worries that participants often had about starting a new posting and made participants even more fearful.

"Coming from the UK, this was my first job in Singapore as a MO and thus had close to 0 experience of working in Singapore"

(P8)

"I was also not very familiar with the system. It added to the fear and unpreparedness before starting the posting."

(P9)

3) Work factors: As a place with high turnover and workload, the picture painted to many of the participants was that it may be difficult to cope with the high workload. This would result in participants being overloaded and overwhelmed. A level of uncertainty was also described. Many participants were left feeling fearful, apprehensive and unsure of what to expect during the upcoming posting. Some were also worried about the expectations they may have to live up to and the nature of the environment being extremely stressful.

"I just heard that it can be quite busy with many patients and at the beginning, it can feel a bit of a throw into the deep end as we often don't know what to expect and the learning curve can be quite steep"

(P12)

"I was also a bit apprehensive as I heard how busy the posting could get"

(P10)

"It's quite a stressful working environment because the seniors have a certain working expectation and if you can't live up to the expectations."

(P16)

Practically, participants were also worried about the potential to get sufficient rest. Many participants heard that manpower may be tight and would result in having fewer or insufficient off days and would run the risk of feeling tired and burnt out.

"I heard that it was also difficult to get leave that you want and that you would also be really tired during the posting"

(P13)

B. Coping Mechanisms

We then explored the different ways the participants utilised to cope with their experiences in the ED. Participants used a variety of means that we broadly classified into broad themes of ensuring clinical safety, psychosocial support and spirituality.

1) Clinical safety: Participants were inevitably worried about competency and had inherent fears of patient safety in their practice. Coping strategies in this realm could be divided into preparation, senior supervision and collegial opinion.

Preparation was often seen in speaking to doctors who had previously rotated through the posting to allow junior doctors to prepare themselves mentally.

"I asked around and tried to mentally prepare myself for what people told me to expect"

(P3)

In addition, the perceived knowledge gaps and lack of experience were dealt with by many participants through studying and reading up to cover these gaps as well as to prevent them from feeling out of depth.

"I had actually read the guidelines prior especially for the things that I was not familiar with."

(P10)

On the ground, participants found the availability and approachability of help and support from senior colleagues helpful in easing the worry and anxiety experienced in the emergency department. This also helped participants feel more safe and secure in their practices in the emergency department.

"I appreciate the nice seniors. Most of the seniors are approachable and they treat us like fellow colleagues. They respect our opinions and try to keep it in mind"

(P10)

"I feel very safe at work and very well supported by the seniors. In general, it is easy to ask for help from most of the seniors."

(P8)

In addition, many participants also felt that their fellow medical officer colleagues were also important in ensuring safety in their practice. With different levels of experience, they could bounce ideas off each other and get a second opinion from their peers. Furthermore, their colleagues also helped to pick up the workload when they felt overwhelmed.

"Everyone is willing to help out when you get stuck. Help is useful and it is easy to come by"

(P1)

"I feel like I have a good relationship with them (peers) and that helps me and I can also get second opinions from them if I'm unsure."

(P9)

2) Psychosocial support: In the high-strung environment of the emergency department, there is a lot of stress and emotions that come with the job. We found that many participants shared about the social component involved in unpacking these emotions and relieving their stress. The components of the collegial environment and support from loved ones appeared to be crucial coping mechanisms that helped participants.

The work climate was cited to be collegial and relationships between co-colleagues were described as friendly. Many participants felt comfortable with their co-colleagues such that they could ventilate their emotions and experiences with one another. These helped participants process and debrief their experiences.

"We generally laugh about the situation together and it gets better. Sometimes they give advice based on what they have seen and how to avoid such circumstances and we try and help each other."

(P7)

"It's useful amongst colleagues because we go through the same things and we get to exchange ideas and I feel we get to debrief this way as well. That helps because we don't feel like we go through it alone because we have similar experiences."

(P8)

Apart from the work environment, supportive loved ones and close friends also helped participants cope with difficult days. Participants cited that out of work encounters helped them to get through tough days and relieve their stress.

"Sometimes I also talk about it with someone. Usually that helps and my stress doesn't usually last beyond the same day."

(P6)

"I guess these 3 things, my family, friends and colleagues help me with tough days."

(P7)

3) Spirituality and wellness: Spirituality and wellbeing were also important in dealing with the experiences and stressors the participants faced. Apart from dealing with the clinical stressors and unpacking the experiences with others, participants also spoke about coming to terms with their experiences and emotions on their own. This involved components of religion and reflexivity. Participants also spoke about the role of maintaining their wellbeing with leisure and self-care activities.

Participants spoke about reflecting and reviewing the good as well as the bad moments at work. These helped the participants make sense of their experiences and as a result, helped them improve and learn.

"I usually pray and reflect on my day and think about what are the good points I can get out of the day."

(P9)

Religion also featured as a means of coping with emotions in the sometimes chaotic environment seen in the ED. These helped participants work better and feel more focused at work.

"I feel like I'm stable when I pray … and I think more thoughts are more ordered. That helps me."

(P15)

Focusing on physical wellbeing also helped to reduce the stress experienced. Participants cited different activities - food, sleep, exercise, self-care and hobbies that helped them take their minds off work and help them get rejuvenated before the next working day.

"Eating and relaxing help me after a tough day"

(P4)

"I find exercising is helpful, and it helps me feel fresher and less sleepy"

(P3)

"Listening to music and watching videos and just going about non-work related normal daily life."

(P11)

"I ensure that I have a good work-life balance… I go for a massage, go for a buffet, watch a movie and enjoy myself."

(P13)

"I draw, I paint. I learn languages. Sometimes I travel. These things help me relax and cope with stress."

(P16)

IV. DISCUSSION

We sought to understand the perceptions of junior doctors starting out in the emergency department as well as the subsequent coping strategies they undertook for challenges that they faced. During the process, we interviewed sixteen junior doctors who spoke in detail about their experiences.

The perceptions that the junior doctors in our study described consisted mainly of their worries and concerns prior to the start of the posting. Most of the perceptions and worries were centred on knowledge, workload and responsibilities that came with the posting.

A large proportion of participants expressed worry regarding competency and personal comfort levels in managing children. As the ED is a broad one and knowledge is inexhaustible, the concerns in lack of competency are seen in the other elements of emergency care and not strictly paediatric emergency (Jelinek et al., 2013; Kennelly et al., 2012; Yong & Ng, 2016).

Many of the worries described by the participants were of an anticipatory nature, from hearing their predecessors' experiences. Anticipation of negative experiences can lead to anxiety and stress in individuals (Carlson et al., 2010; Grupe & Nitschke, 2013). Participants had anxiety about the workload and certain work factors prior to the start of the posting. While predecessors' recounts are helpful in preparing doctors for their upcoming experience, the anxiety that comes with this preparation may not be. Positive effects can also be seen when a positive picture is painted of the upcoming experience (Gangwal et al., 2014; Luo et al., 2018). As it is difficult to balance the negative anxiety and the positive effects of preparation, it may be helpful for junior doctors to receive a formal handover from existing doctors who themselves have had a positive experience so as to prevent excessive anxiety.

We next explored the coping strategies involved to help the participants through the difficult parts of their experiences.

In areas of safety, participants commented on how the support from the senior staff helped allay their fears and increase patient safety at work. Other studies showed similar themes with HCWs expressing the desire for support, professional help and preventive action in the ED (Mikkola et al., 2019; Povedano-Jimenez et al., 2020; Ruotsalainen et al., 2015). In situations where support was provided, these corresponded to higher levels of satisfaction at work (Hunsaker et al., 2015). This is especially so in HCWs who were exposed to traumatic situations (Zhao et al., 2015).

Social support is an important factor in dealing with stressful situations (Gribben et al., 2019). In our cohort, our participants also engaged in social interactions with family, friends and colleagues in an attempt to deal with stressors in the ED. The collegial environment was also beneficial in dealing with stress and helping participants better process their experiences (Povedano-Jimenez et al., 2020).

Apart from expressing emotions and stressors, participants also sought to ensure mental and physical wellness of oneself. This was done by focusing on their

spirituality as well as physical wellness and self-care. These strategies utilised were similar to those seen in other studies (Gribben et al., 2019; Hoonpongsimanont et al., 2013; McPherson et al., 2003; Palmer Kelly et al., 2020; Xu et al., 2019).

Maladaptive coping strategies did not come up as a main theme in our interviews.

A. Limitations

The study was conducted in a single ED at a single time point. Efforts were taken to diversify the population interviewed with participants experiencing different durations within the department. However, interviews of participants who had experienced the ED at different time points could have brought about different views and themes.

The primary investigator was also working within the same department during the time of the study. As the investigator was also a junior doctor during the study, a power dynamic effect was minimised.

The setting was limited to a single centre in the Singapore setting and thus, was extremely specific. Singapore is a city-state with easy access to healthcare. In addition, due to strict legislation, violence is minimal compared to other areas. As such, the patient load and patient type may differ from other ED and may raise the question of applicability in a different setting.

In addition, this study was conducted prior to the COVID-19 pandemic and the findings were representative of the climate at that time. The pandemic has led to multiple changes in workflow and work culture in the paediatric ED, and these may affect the applicability of our findings.

B. Future Research and Practical Implications

The study is the first qualitative in-depth study looking at perceptions and coping strategies in a paediatric emergency setting among junior doctors in a single centre. It is the first study to explore the individual perceptions and coping mechanisms of doctors, with a focus on the subset of junior doctors. The group was relatively small and conducted at a single time point. As such, the study can be expanded to include a larger group of participants across different time points and centres to illustrate a bigger picture.

Many of the participants also talked about the challenges they experienced in the paediatric emergency. They also raised possible improvements that could be made to help with stressors and challenges in the ED. This could be studied further and future research could focus on how we could target these factors and how effective these adjustments can be.

The findings of this research echoed the findings of prior studies. This study also sheds light and gives us more depth in terms of the early perceptions prior to the start of the postings and the coping strategies that were used.

These findings can also help future doctors rotating through the ED picture the experience. This would give doctors an opportunity to decide how best to prepare themselves. It could also help the doctors feel united with their current colleagues and predecessors in their challenges. And that they are not alone in their experiences.

V. CONCLUSION

In this study, the perceptions of junior doctors and coping strategies of junior doctors in an Asian Paediatric ED were studied. We looked at the perceptions and coping strategies utilised. Many factors were established in contributing to the experience. Improvements and suggestions to improve the experience were also brought up. Other HCWs can also understand how to best work with the junior doctors to facilitate an effective and pleasant working environment.

Notes on Contributors

Jaime Tan undertook literature reviews, conducted and analysed interviews and drafted the manuscript. Junaidah Badron reviewed the interviews and drafted and reviewed the manuscript. Sashikumar Ganapathy conceived the idea of the study, reviewed and analysed interview transcripts and advised the manuscript design. All authors have read and approved the final manuscript.

Ethical Approval

This project was submitted to the Centralised Institutional Review Board for approval (CIRB Ref 2019.2772). All participants consented to the research study.

Data Availability

All data collected in this study are openly available on Figshare repository,

http://doi.org/10.6084/m9.figshare.19204761

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Declaration of Interest

The authors declare that they have no conflicts of interest.

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