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The determinants of quality care: review and research report

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There is consensus around the world that young children must experience high quality services, not only to ensure the best possible future outcomes, but because children have the right to the best possible present (Elliott 2004; Myers 2004; Wylie & Thompson 2003). All children are found to benefit from high quality early childhood programs, but those from disadvantaged backgrounds demonstrate stronger advantages (Myers 2004). The catchphrase 'the importance of the early years' has now become a call to arms: it is recognised worldwide that we must provide the best possible services to young children and their families (Stanley, Prior & Richardson 2005). However, there is not universal agreement as to what constitutes best possible early childhood services. Understandings of quality are value-based and change as values change (Childcare Resource and Research Unit 2004). Understandings are also different across cultures, religions, contexts and the person or group making the judgment (Friendly, Doherty & Beach 2006). Myers (2004, p.19) argues that 'different cultures may expect different kinds of children to emerge from early educational experience and favour different strategies to obtain those goals'. There is not a universal definition of quality: in different times and places different kinds of practices are valued as high quality.

Despite this, within the Western world, professionals assume at least a basic common understanding (see Cryer, 1999 for example). The European Commission Childcare Network attempted to define these commonalities and came up with 40 quality targets (available at www.childcarequality.org). Analysing the literature from a range

of European countries, Myers (2004) argues there is consensus around quality components including safety, good hygiene, good nutrition, appropriate opportunities for rest, quality of opportunity across diversity, opportunities for play, opportunities for developing motor, social, cognitive and language skills, positive interactions with adults, support of emotional development, and the provision of support for positive peer interactions. However, performance indicators identifying how these principles play out in practice differ in different contexts and with different levels of expectations and resources. What is clear is that quality is multidimensional, complex and multi-theoretical (Duigan 2005; Raban, Ure & Wangiganayake 2003). Single indicators of quality are ineffective, as quality outcomes for children are found to relate to a complex interplay of many different factors (Buell & Cassidy 2001).

In this context of complexity and uncertainty, researchers attempt to measure quality, and states attempt to regulate for quality care. Research tools measuring quality tend to focus on particular theoretical approaches to learning, for example the developmentally appropriate practice approach (Walsh & Gardner 2005). At state level, regulations are introduced addressing certain easily measured aspects of care. There is general agreement that where regulations are strict, quality is enhanced and outcomes for children are better (Gallagher, Rooney, & Campbell 1999; Mitchell 2002), so the assumption remains that regulations must be doing some good. O'Kane (2005) agrees, arguing that regulations contribute to enhancing quality practice, but they are not solely responsible as there are a number of other factors coming into play. She argues that it is easier to regulate structural factors than process, and thus it is structural factors that are found in most childcare regulations.

The differentiation between structural and process factors in the quality debate is one that has been recognised for many years (McCrea & Piscitelli 1990; Murray 1986; Phillips 1987). Structural factors are thought to establish a foundation upon which quality processes can occur (Phillips et al. 2000). A range of structural variables have been recognised as contributing to quality. For example group size and adult/child ratios have long been recognised as important (Mitchell 2002; Rayburn 2002). Most countries include these variables in their regulations, although

different countries accord them different levels of importance (Cryer et al. 1999). Increases in levels of staff experience are linked to improvements in quality, although van Ijezendoon et al. (1998) indicate a ceiling effect, where staff who have been in the industry for over 10 years are more restrictive in their practice and offer less stimulation to children. Staff stability is also linked to improvements in quality service delivery (Mitchell 2002).

Staff knowledge, gained through training, is a common structural variable identified in regulations and considered an important contributing factor in quality service delivery. Pre-service training is linked to increasing quality, as is ongoing training and support (Campbell & Milbourne 2005). Staff with higher levels of training are found to engage in warmer and more responsive interactions with children and these lead to improved child outcomes (Connor, Son, Hindman & Morrison 2005). Staff with higher levels of training are less authoritarian, less punishing, more sensitive and demonstrate more positive interaction styles (Abbott & Langston 2005; Arnett 1989; Burchinal Cryer, Clifford & Howes 2002; de Kruif, McWilliam & Ridley 2000). Some research suggests that training beyond high school level is related to improvements in children's social development (Loeb, Fuller, Kagan & Carrol 2004). However, other research suggests that while training improves children's cognitive development it does not impact as positively on socio-emotional outcomes (van Ijzendoorn 1998). Significant improvements in children's outcomes can be found when training is coupled with on-the-job support, such as mentoring (Fiene 2002).

Training gives staff the knowledge and skills to participate in warm, sensitive and responsive interactions with children and it is these interactions and relationships that are important determinants of children's outcomes (Hutchins & Sims 1999; Wylie & Thompson 2003). Interactions and relationships are part of process measures of childcare quality (Mitchell 2002). High quality early childhood practice requires caregivers to engage with children's interests, to be responsive and to stimulate children (Connoret et al. 2005; Kugelmass & Ross-Bernstein 2000; Mitchell 2002; van Ijzendoorn et al. 1998; Zaslow & Tout 2002). Group-related sensitivity is linked with secure attachments between caregivers and children in childcare centres (Ahnert, Pinquart, & Lamb 2006). Sensitive and responsive caregiving is linked with

improved cognitive outcomes for children (Loeb et al. 2004). In low quality centres there are less adult-to-child interactions and less child-to-child interactions, limiting learning opportunities for the children concerned (Vernon-Feagans & Manlove 2005). Where interactions are more controlling, children demonstrate less active engagement, again limiting learning opportunities (de Kruif, McWilliam & Ridley 2000). A number of childcare programs recognise the importance of establishing secure relationships with caregivers and operate using a primary caregiver model where children are encouraged to develop positive relationships with particular caregivers, who are then able to work with the children over an extended period of time (Rayburn 2002).

Other process factors also contribute to a high quality childcare service. Working collaboratively as part of a team (caregivers both supporting each other and working with parents) is recognised as an important indicator of a quality service (Landerholm, Gehrie & Hao 2004). Caregivers need to demonstrate a range of skills to ensure they can participate as an effective team member; these include ability to collaborate, work in a team, share decision-making and problem solving, and manage conflict resolution effectively (Kugelmass & Ross-Bernstein 2000).

Working with parents requires recognising the importance of communication. Children's outcomes are enhanced when there is congruence in values and practices between the home and the care environment. Bronfenbrenner called this a strong mesosystem (Bronfenbrenner 1979). Where children come into the care environment from different cultural backgrounds than those of the caregivers they are particularly at risk and it is important, in a quality service, that these differences are recognised and addressed (Wise & Sanson 2003).

The way the service is auspiced is also found to have an influence on quality. Canadian research consistently demonstrates that for-profit centres consistently demonstrate lower levels of quality than community-based services (Cleveland & Krashinsky 2005). In Canada, this lower quality is linked to the use of more untrained staff in for-profit centres, along with higher staff/child ratios and higher staff turnover rates. These result in poorer performance on quality indicators such as the level of personal care provided for children, use of materials, activities, interactions

between staff and children, communication with families and support for staff professional development. It is often argued that such factors do not play such a part in Australia because of regulatory control over staff/child ratios and the number of trained staff. However, a recent study of quality in Australian child care clearly identified lower levels of quality in corporate centres, higher levels of quality in privately owned centres (as distinct from corporate ownership of large numbers of centres), and highest quality in community-based centres (Rush, 2006, see Rush in this volume). Caregivers in community-based centres were found to be more able to develop secure relationships with children, accommodate individual needs, and more likely to offer nutritious foods. Corporate centres were more likely to drop below mandated staff/child ratios whereas community-based centres were more likely to regularly operate at higher than required ratios. Five percent of caregivers in community-based services and 21 percent in corporate centre caregivers said they would not be happy to send their own child (under two years of age) to a centre operating at a similar level of quality as the one in which they were employed. It is argued that the very nature of corporate enterprise makes it impossible to offer the highest levels of care to children, as the business orientation of for-profit enterprise is incompatible with the humanist focus of community-based service delivery.

While it is recognised that many trained caregivers share a common understanding of quality, not all are able to implement that understanding in their practice (Watson 2003). Many issues impact on caregivers' ability to deliver high quality practice. Caregivers' own personal values and beliefs impact on the quality of practice they deliver (Sims 1999, 2003b). Where caregivers receive appropriate support the quality of service delivered improves and thus child outcomes improve (Epstein 1999). Higher salary levels for caregivers are linked to better quality ratings (Myers 2004). Unfortunately in many Western world countries caregivers work in an environment characterised by low wages and poor working conditions (Doherty & Forer 2005). In Australia, for example, in 2003 caregivers working in the state of Victoria received the same level of pay as garbage workers (Sumison 2005). Caregivers are recognised as among the lowest paid workers in Australia, and Australia spends only 0.1 per cent of GDP on early childhood

services, one of the lowest expenditures in the world (Elliott 2004; OECD 2006).

The work of caring for children is not valued by the community. In part this is associated with the history of childcare programs, arising out of a social reform movement aimed at controlling the lower classes, preparing lower class children for their appropriate position in life (Brennan 1994; Hutchins & Sims 1999). The status of child care is also deeply linked to patriarchy and the mythology of motherhood: women are supposed to care for children because it is in their nature to do so, and as such, it is not a professional occupation but a natural and inevitable role all women should be able to perform instinctively. Despite decades of feminism many in our society are still strongly influenced by patriarchy. Indeed, caregivers themselves are not immune and as recently as 20 years ago Bell (1988) demonstrated that the majority of caregivers thought parents using child care were selfish to do so, and did not intend to ever put their own children into child care.

In this environment of poor wages, working conditions and minimal value placed on their work, it is very difficult for caregivers to implement high quality practice. They are inadequately trained, paid, and supported. They may have the knowledge, but often lack the material and emotional resources to deliver. Research clearly demonstrates that workers in positions where they have little control over their work, and who feel their work is under-valued, experience increased levels of stress and this impacts not only on their ability to perform, but on their long-term health and wellbeing (Bollini et al. 2004; Kunz-Ebrecht, Kirschbaum & Steptoe 2004).

Worker stress has been examined in a number of studies, using a biomarker (cortisol) as an indicator of stress levels. Men in lower-level positions demonstrate consistently higher cortisol levels, increased heart rate and higher blood pressure than men in executive or more senior positions during the course of their normal daily lives. However, women in more senior positions demonstrated higher levels of cortisol, suggesting that they experienced more stress (and presumably stress-related illnesses) than women in less responsible positions (Steptoe 2003b). Steptoe also reports that blood pressure in workers in lower status positions takes longer to return to baseline levels after a stressful event

(Steptoe 2003a). To date, caregivers working with children in their early years, (years that are crucial in shaping outcomes for children and society as a whole) have not been targeted in this research. This chapter reports preliminary results on a project that examines the stress levels caregivers experience in their normal daily work, and links that to the quality of the services they offer young children. This is part of a larger study of children's cortisol levels in child care and how these relate to the quality of the childcare program (see Sims, Guilfoyle & Parry 2005, 2006a, 2006b)

The project examined the relationship between caregiver stress (cortisol) levels, children's stress (cortisol) levels, a range of structural caregiver variables and childcare quality as measured by process variables.

Methods

Sample

Caregivers in 16 childcare centres around Perth were approached to participate in the study. All children attending each centre for at least three days a week were approached to participate. To date, 42 babies (0–2 years of age), 67 toddlers (2–3 years) and 117 kindy children (3–5 years) have been involved. Caregivers were asked to provide information about their work with the children. They were given the option of extending their involvement to a personal level whereby additional data was collected as described below. This chapter reports on data from the 41 caregivers to date who have done so.

Cortisol

Cortisol is becoming a popular research tool because it provides a measure of the immediate impact of the environment on the body (Gunnar & Cheatham 2003). In a stressful situation, the body reacts by increasing cortisol which functions to provide additional energy to cope with the stressor. When stress is present chronically the body becomes programmed to maintain high or low levels of cortisol over much or all of the day. It is thought that constant high levels of cortisol are linked to an active coping response and constant low levels to a passive coping style (Gunnar & Vazquez

2001) but it is not yet clear how these different pathways are established. It is clear from a range of both human and animal research that chronically high or low levels of cortisol (hypo- or hypercortisolism) are linked to a range of undesirable outcomes. Children exposed to chronic stress in the early years of life develop atypical stress responses that increase their lifelong risk for hypertensive illnesses (heart attacks and strokes) and memory problems (Abercrombie et al. 2003), severe rheumatoid arthritis, chronic fatigue syndrome and impaired immune responsivity (Padgett & Glaser 2003), depression and post traumatic stress disorder (Young & Breslau 2004) and a range of social-emotional (Luecken & Lemery 2004) and behavioural (Adam 2003) problems.

Given, therefore, that it is important children develop 'normal' cortisol responsivity, it is possible to define a high quality environment as one in which children's stress levels are low (Sims, Guilfoyle & Parry 2005). Cortisol measures give researchers the opportunity to identify quality in an environment without having to address the values issues surrounding different understandings of, and beliefs about, what constitutes quality. Quality becomes that which operates to minimise children's stress levels, in this case as measured by salivary cortisol.

Saliva is commonly used in research as a vehicle to measure cortisol levels as it is non-invasive and easy to collect, store and transport. It does not decay quickly and does not need special treatment (Gunnar & White 2001). Saliva samples in this study were taken following the method outlined in Gunnar and White (2001) and described in Sims, Guilfoyle and Parry (2006b). Saliva was collected before morning and afternoon tea from the primary (trained) caregiver and for each child in the group. The afternoon *cortisol scores of each caregiver* were averaged then subtracted from the averaged morning scores to identify the average increase in cortisol for each caregiver. Morning and afternoon *children's cortisol scores* were averaged across the children in the group led by each caregiver. These averaged afternoon cortisol scores then were subtracted from the averaged morning cortisol scores to identify the children's average change in cortisol per group.

Childcare quality

Fourteen of the principles identified in the national Quality Improvement and Accreditation System (QIAS) (National Childcare Accreditation Council 2001a, 2001b) were selected to represent quality of each child's experience in the room in the childcare centre they attended. We purposively selected centres to cover the full range of quality experiences (from unsatisfactory to high quality), and our sample therefore has a higher proportion of unsatisfactory groups than is the case for the childcare industry nationally, so we do not claim that the centres in this study are representative of Australian child care as a whole (see Sims, Guilfoyle, & Parry 2006b for further explanation). Observations were taken in each room of the centre and rated according to the scale identified in QIAS (National Childcare Accreditation Council 2001b). A quarter of the observations were sent to a nationally trained validator to check for accuracy of rating. Concordance was 100 per cent. Scores across QIAS principles were totalled into an overall score (range =14–42; median 20). For ANOVA (analysis of variance) analysis, the total scores were subject to a median split technique classifying centres into low quality and high quality centres.

Data analysis and results (1)

Cortisol patterns of caregiver and children within low quality and high quality centres

While the trends identified in the data failed to reach significance based on the current sample sizes, they are clear in their direction. Ongoing data collection will provide the additional sample which may enable demonstration of significance. Cortisol increases for staff in high quality centres are greater (mean increase = 2.52) than their counterparts in low quality centres (mean increase = 2.12). In other words as the day progresses, caregivers in high quality centres demonstrate greater increases in cortisol than caregivers in low quality centres. However within those same centres, children's cortisol is lower in high quality centres (mean increase = 0.12) relative to the cortisol increases in low quality centres (mean

increase = 1.32). Thus in high quality centres, caregivers are getting more stressed as the day progresses but children are getting less stressed. In low quality centres it is the children who are getting more stressed as the day progresses and the caregivers who are getting less stressed. Perhaps the stress of maintaining a high quality environment elevates the cortisol of workers; however this is well invested effort as the children within those centres benefit from reduced cortisol levels in the afternoon when compared to their low quality centre peers.

Data analysis and results (2)

Caregiver variables and their impact on caregiver's cortisol, children's cortisol and QIAS scores

We performed a series of unconditional multiple linear regressions, separately for personal caregiver variables, caregiver ratings of relationships and environment within the centre, and centre characteristics. The only caregiver variables that showed a significant relationship with their cortisol levels were the number of trained staff in the room, and the numbers of children with disabilities and children from culturally and linguistically different (CALD) backgrounds in the room. Older caregivers tended to have higher stress levels, and caregiver stress levels are also higher when there is more than one trained caregiver in a room. Adding children with disabilities to the group also increases caregiver stress but adding children from CALD has the opposite effect.

The analyses investigating caregiver variables and their relationship to children's cortisol levels found three significant results: for caregiver experience, number of hours worked by the caregiver each week and the number of trained staff in the room. Children were less stressed when their trained caregiver had more experience in child care (not necessarily at this particular centre) and there were more trained staff available to them. However, caregivers' increased hours of work per week increased children's stress levels.

The analyses investigating the relationship between caregiver characteristics and the quality of the service they were delivering (as measured by the QIAS score) demonstrated significance on three

variables: the length of time the caregiver had worked at this particular centre, the adult/child ratio in the room and the number of children from CALD backgrounds in the room. The longer caregivers had been employed at the one centre the more likely they were to offer programs that rated highly on the QIAS. Better adult/child ratios also improved performance on the QIAS as did increasing numbers of children from CALD.

Discussion

Structural factors linked to childcare quality are controlled by legislation in Australia (albeit at state level) and because of this it is assumed that the variation we see in these elements is minimal and therefore not thought to contribute significantly to quality differentials in Australian centres. However, recent research by Rush (2006) and previous research by Sims and colleagues (Sims, 2002, 2003a; Sims, Hutchins & Dimovich 2002) does suggest that there exists considerable variation in these variables, despite the intent of the legislation in setting minimum standards. In this study there were some structural features of the childcare environment that still influenced quality. In particular, the number of trained staff in each particular group appeared to contribute to increases in caregiver stress levels but decreases in children's stress (and by implication improvements in children's long-term outcomes). A better staff/child ratio was identified as linked to better QIAS ratings and this is supported by the recent research released by Rush (2006, and in this volume).

Inclusion of children with different needs is often thought to be particularly stressful for caregivers. In this study, caregivers had higher stress levels if they had higher numbers of children with disabilities in their care, however, inclusion of children from CALD was associated with lower stress levels and better performance on the QIAS. It is possible that there is something about delivering a program for children from CALD that encourages caregivers to think about quality practice, reflect on their own practice, and thus become better caregivers. Observing and reflecting on their own practice may help them feel better about the service they are delivering and thus lower their stress levels. Alternatively, it may be that the inclusion support provided for children from CALD

backgrounds is particularly effective in improving practice and this increases caregiver confidence and lowers stress levels.

The more experience caregivers have in child care and the longer their employment in a particular centre, the more likely caregivers were to deliver better quality care (as measured by lower children's stress levels and QIAS scores). Older caregivers (presumably more likely to have been in the industry longer and to have more experience) were more likely to be stressed. Despite their higher stress levels, highly stressed caregivers were delivering better quality care.

In the long term we know that more stressed workers are more likely to burn out or to leave the industry. This preliminary study suggests that the childcare profession in Australia is relying on a stressed workforce to maintain quality standards. We know that the childcare environment is one where caregivers are not supported, not paid well and their work is undervalued. The high staff turnover rates evidenced in the childcare industry today suggest that this is not a good formula for long-term growth and development.

We need to prioritise a re-positioning of the childcare profession to improve worker status. Improvements in status can then be supported by improvements in training of workers, and improvements in pay and conditions. When these changes are in place we can expect significant improvements in child outcomes, impacting on the future of Australia's workforce and citizenry. Without these changes we seem poised for a decline into chaos, declining standards and increasing pressure on parental care to the detriment of children, the workforce and society in general.

The childcare system of the future needs to be able to deliver quality service to *all* children and families. In shaping this we ought to be influenced by what has gone before, in particular the community-based movement of the Hawke government in the 1980s and the espoused intentions of the women's movement at that time. We also need to consider the research from around the world that demonstrates support delivered to parents makes them feel effective and competent and makes a difference to child outcomes.

We require a society that recognises the importance of the early years, respects and values the role of parents and others who are key

people in the lives of young children, and provides the necessary support so that every young child gets the best quality care in whatever environment that child happens to participate. Where a parent chooses to stay home with the child there ought to be state funded support to ensure that the parent is supported to deliver the highest possible quality care. If the parent chooses to return to work that support ought to be offered to the alternative caregiver(s) whether that be an unpaid family member or friend or a paid caregiver in a formal care setting.

Child care should be defined to include the full range of services from supporting parents in the home to providing out-of-home alternative care in a group setting. In my view, child care ought to be government funded but delivered by local agencies that have the best knowledge of local needs. Childcare centres are part of this spectrum of family support, and should be sufficiently flexible to offer care that reaches beyond simply accepting a child in the morning and returning that child to parents at the end of the day.

In this system, staff in childcare centres ought to function as extended family members, providing advice and support, modelling child rearing strategies, and offering parents opportunities to make contact with other parents who live locally in order to develop their own informal support networks. In this way, childcare centres can offer opportunities for building on community strengths by offering appropriate opportunities for parent education, and parent advocacy. Childcare centres in this way operate as a community hub. We know that parents are much more likely to direct their energy and effort into issues relating to the wellbeing of their children, and a high quality childcare centre can capitalise on that to build community strength and capacity.

In order for this to be possible, funding for support must be budget-based so that each local agency can best determine the range of support services required in their community and contract to deliver these services. In this vision, centres need to be accountable to their local area and will have a contract to deliver needs-based services relevant to their local community. These can be evaluated on their effectiveness against their local targets. Services will look very different from one area to another as each is developed in response to local need and is sufficiently flexible to change as local need changes. Thus child

care in its broadest sense becomes a holistic community response to supporting young children and their families, and childcare centres play a role in providing alternative care when this is an identified community need.

Staff working in child care in this broadest sense need not only to have child-centred expertise but must also have expertise in working with parents, community development, empowerment and an understanding of strengths-based practice. Staff must be highly valued and their conditions of employment must reflect the high value placed on their work. In an ideal context, staff will remain in their positions for considerable periods of time and thus develop an in-depth understanding of the community in which they work, develop strong relationships with community members and effective networks with others working in the community. Such relationships and networks must be valued as a core component of their work in the community.

In this vision, child care is about empowering parents and communities to ensure that every child has the best possible experiences in his/her early years of life.

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