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ORIGINAL ARTICLE

Assessing Parental Readiness for Childcare: An Early Childhood Development Framework in Karachi, Pakistan

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Abstract

Background: There are high disparities in relation to global guidelines of Early Childhood Development (ECD) and parental practices in Pakistan. Only a quarter of children are reported to get developmentally suitable care and thus, there is need to evaluate and improve parental preparedness, especially in urban areas such as Karachi.

Methods: The research involved 401 expectant and prospective parents in Karachi in a cross-sectional study that utilized a self-constructed questionnaire based on the WHO ECD guidelines. The instrument measured knowledge in the following areas: general preparedness, responsive caregiving, early learning, developmental milestones, and nutrition. The reliability was high (Cronbach 843= 0.843). Data analyses were done in SPSS and graph pad Prism.

Results: Although 72% of parents were strongly practicing daily care and 67% were able to identify infant hunger behaviors, serious knowledge gaps were revealed. Developmental delays were only noted by 39% with 44% being thoroughly aware of child nutrition. Also, 21% complained of the inability to balance between traditional elder advice and professional guidance. The majority of the respondents (25-38 years old, with graduate degrees, middle-income households) were middle-income people.

Conclusion: There is a gap in preparedness where parental confidence is usually greater than actual ECD knowledge. It is proposed to bridge this gap and to achieve better childcare outcomes in Pakistan by culturally adjusted community-based interventions, incorporating digital tools, local health workers, and policy assistance.

Keywords: *Early Childhood Development, Developmental Milestones, Parental Preparedness, Parenting Education, Nutrition.*

Introduction

The process of becoming a parent is a life-altering one that is full of great happiness and immense challenges.[1] Additional socioeconomic factors, lack of access to formal parenting education, and changing child-rearing norms that are sometimes incompatible with traditional ones further complicate the transition to parenthood, which in some low- and middle-income countries (LMICs) such as Pakistan may have a detrimental effect on the developmental path of a child.[2-3]

It is characterized by the World Health Organization (WHO) and UNICEF that early childhood development (ECD) is the physical, cognitive, emotional, and social development of children during the prenatal stages up to the age of eight years old.[4-5] It is especially vital as the first 1,000 days, or the period between conception and the age of two, are considered to comprise a window of rapid brain development, formation of essential foundational skills, and a time of responsive caregiving at the time of brain development.[6] ECD in Pakistan has a systemic lack of awareness, access, and implementation of ECD principles, as only approximately 40% of children under five years old receive developmentally appropriate care.[7]

An important determinant of nurturing care is parental preparedness, which in this case is characterized as the knowledge, skills, and confidence needed to address the needs of the development of a child. The factors that influence preparedness are many, and include but are not limited to maternal education, socioeconomic status, exposure to prenatal education, and access to credible sources of information, such as digital sources or community health workers.[8] Past research in LMICs has shown that despite having high motivation, parents may lack specific knowledge concerning developmental milestones, responsive interaction strategies, and nutritional needs, thus resulting in missed opportunities to stimulate and target them early.[9]

This research focuses in Karachi, the largest and socioeconomically diversified city of Pakistan. Although urban centres might enjoy access to healthcare services more than rural ones, inequality in education, income, and digital literacy can still present uneven parenting support environments.[10] The study evaluated parental awareness and preparedness in primary ECD areas as defined by WHO/UNICEF. In particular, it considers the competence of parents regarding knowledge of responsive care giving, early learning in the form of play, awareness of developmental milestones, and proper nutrition habits. Moreover, it examines the impact of prenatal education and online resources on parental confidence and prenatal behavior.

This study aims to inform intervention planning by discovering strengths and weaknesses in parental preparedness to facilitate culturally suitable, scalable interventions that have the potential to improve parenting behaviors and, therefore, ECD outcomes in Karachi and other urban areas in LMIC.

Methodology

Study Design and Setting

A cross-sectional study was conducted over four months in Karachi, Pakistan. Data were collected from the Department of Obstetrics and Gynecology in central Karachi and other associated clinics and hospitals. The setting was chosen to access expectant and prospective parents during routine healthcare visits.

Target Population and Sampling

The target population consisted of couples who were either trying to conceive or were within the gestational period. A convenient sampling method was employed. The sample size was calculated as 384 using the formula for a finite population, accounting for a design effect (DEFF), expected proportion (p), and margin of error (d). The final sample included 401 participants.

Inclusion Criteria

Individuals actively trying to conceive or currently pregnant.

Exclusion Criteria

1. Healthcare professionals specializing in ECD.
2. Individuals who were already parents.

Data Collection Tool

A self-constructed questionnaire was developed based on WHO ECD guidelines.[11] The tool was designed to assess parental knowledge, attitudes, and intended practices across five core domains:

1. General preparedness for parenthood
2. Responsive care and childcare
3. Responsive care and activities for early learning
4. Awareness of developmental milestones
5. Nutrition interventions and awareness

The questionnaire was translated into Urdu and pilot-tested for clarity and relevance. It demonstrated high internal consistency, with a Cronbach's alpha coefficient of 0.843.

Variables

- ***Independent Variables:*** Parental age, education level, socioeconomic status, occupation, and exposure to prenatal/digital education.
- **Dependent Variables:** Knowledge scores across the five ECD domains, familiarity with WHO guidelines, and confidence in caregiving abilities.

Data Collection and Analysis

The questionnaire was administered electronically via Google Forms, with links distributed through WhatsApp and email. Prior to participation, informed consent was obtained electronically. Data were cleaned, coded, and analyzed using SPSS version 25 and GraphPad Prism version 5.0. Descriptive statistics (frequencies, percentages, means) were used to summarize demographic variables and domain scores. Results were presented in tables and graphs for clarity.

Results

Most of mothers aged were 25-31, fathers were more even 25-38. More than 50% of the participants earned a graduate degree and the majority of them were middle-income families.

Table 1: Demographic Characteristics of Participants (N=401)

Characteristic	Category	Frequency (n)	Percentage (%)
Age Group (Mothers)	18–24 years	85	21.2
	25–31 years	210	52.4
	32–38 years	106	26.4
Age Group (Fathers)	25–31 years	185	46.1
	32–38 years	167	41.6
	39+ years	49	12.3
Educational Attainment	Intermediate or below	95	23.7
	Graduate	210	52.4
	Postgraduate	96	23.9
Monthly Household Income	< PKR 50,000 (Low)	125	31.2
	PKR 50,000–150,000 (Middle)	220	54.9
	> PKR 150,000 (High)	56	13.9

Family Readiness in ECD Areas

The developmental milestones were the highest in terms of high preparedness and then nutrition. General preparedness to parenthood was the area where the high-preparedness score was the lowest, and parenting support had to be extended.

Particular Knowledge and Practice Fissures

Daily Care Habits: 72% of parents reported good daily care habits (e.g. feeding, bathing, sleep routines).[12]

Emotional Responsiveness: 67% were able to recognize correctly hunger signals in babies.

Modern vs. Traditional Awareness: 66% of them admitted that there are differences in parenting between modern and traditional.

Recognition of Developmental Delays: Among this group, only 39% were able to recognize early developmental delays.[13]

Nutrition Knowledge: Awareness of age-specific nutritional needs was only strong in 44%.[14]

Navigating Advice: 21% said that they struggled with how to balance elders with advice and professionals with guidance.[15]

Discussion

The paper is an in-depth evaluation of the parental preparedness to ECD in Karachi, Pakistan. Results show a two-sided situation: parents demonstrate high competencies in the domain of basic and emotional care giving, and there remain serious gaps in specific knowledge domains that are important in the whole child development.

The high-percentage of parents (72%) who report strong daily care habits is consistent with the findings of other global researchers, which show universal motivation to caregive.[16-17] but the low-percentages of knowledge of infant developmental delayed (39%) and nutrition (44%), are concerning. These gaps imply that parents are skilled at addressing immediate physical and emotional demands, but lack the needed information to track the status of developmental well-being and offer a nutritionally balanced diet, which is also supported by the findings reported in other LMICs.[18-19]

Table 2: Parental Knowledge and Preparedness Scores by ECD Domain

ECD Domain	High Preparedness (%)	Moderate Preparedness (%)	Low Preparedness (%)
General preparedness for parenthood	22.4	45.6	32.0
Responsive care and childcare	27.1	50.1	22.8
Responsive care & activities for early learning	26.5	48.9	24.6
Awareness of developmental milestones	31.2	44.6	24.2
Nutrition knowledge and practices	44.0	40.1	15.9

A cultural challenge is witnessed by the clash between professional and traditional advice, which 21% of the parents said they received. In collectivist cultures such as Pakistan, the elders have a high degree of influence, but they may not always be accurate when compared to evidence-based ECD guidelines, which is why the cultural sensitivity of communication techniques that allow the expansion of the traditional knowledge base and align it with current guidelines is essential.[20-23]

Our findings reflect international findings that indicate a general lack of a relationship between parental confidence and real ECD knowledge. In the studies of Uganda and India also, high parental self-efficacy and low awareness of developmental milestones and stimulation methods have been identified, as well as with the impact of socioeconomic factors, where higher education and income levels were associated with superior preparedness. The high milestone awareness (31.2%) performance relative to the general parenting preparedness (22.4%) indicates that there is a possible exposure of parents to target information campaigns (possibly in the form of prenatal clinics) but general, holistic parenting education is still wanting. This is consistent with the focus of WHO on integrated parenting help beyond discrete topics.[24-26]

Strengths of the Study

- **Policy-Relevant Framework:** Immediately links findings to WHO/UNICEF ECD priorities, which increases policymaker utility.
- **Methodological Rigor:** The large sample size (N=401) and valid tool (0.843) enhance validity.
- **Holistic Assessment:** Takes into account the knowledge and contextual variables such as the socioeconomic status and origin of advice.
- **Cultural Contextualization:** Implicitly takes into account the dynamic of the local, including the use of elders, which makes a recommendation acting.

Limitations

- Clinic-based convenient sampling has a potential to over-represent parents who have healthcare access and restrict the ability to generalize to poorer populations or rural populations.
- The responses can be socially desirability biased and they can represent what parents think they ought to know but not what they actually know or do.
- We cannot determine causality or changes in preparedness with time.
- The results are localized to Karachi and might not be representative of the situation in rural Pakistan where people have less access to information.
- The knowledge and the self-reported practices were measured, but not the actual quality of caregiving.

Practice and Policy Implications

In order to bridge the existing gaps, the multi-pronged approach is suggested:

- Design low-cost interactive, volunteer-guided workshop programs by trained community health workers. These must be aimed at discovery developmental delays, nutrition as well as responsive play, through local examples and languages.
- Develop and distribute basic, Urdu-language mobile applications or SMS-based notifications that deliver small-sized ECD tips, milestone trackers, and nutrition texts.
- Engage the assistance of grandmothers and senior members of society in educational activities with the aim of reducing the divide between the traditional and evidence-based approaches, and allow the consensus to be reached at the household level.
- Recommend the adoption of mandatory ECD counseling as part of regular prenatal and pediatric care within the public health. Radio and local TV campaigns can also enhance important messages through public awareness campaigns.

Future Research

Longitudinal studies are also required to determine the trajectory of preparedness during pregnancy to early childhood. The same study ought to be carried out in rural and peri-urban areas in order to come up with a national representative image.

Conclusion

This research highlights a major discrepancy between parental confidence and competence in important areas of ECD in urban Pakistan. Although there are some basic strengths of caregiving, there are specific gaps in knowledge in developmental monitoring and nutrition that may put the child at risk of poor development. The only way to bridge this gap is to go beyond the one-size-fits-all global guidelines that need to be replaced by interventions in a culturally adapted, accessible, and multi-channel form. The system of family and health systems support allows Pakistan to convert the readiness to parental nurture, by empowering the parents and aligning the family with the health systems, and this way every child will have the base to prosper.

Author Contributions

Aleeshba Hakeem: Study conception and design, data collection, statistical analysis, manuscript preparation, and revision.

Maheen Mehdi: Literature review, data collection, data entry, and manuscript review.

Norees Khan: Methodology development, data analysis consultation, and manuscript review.

Romana Aslam: Data collection, participant recruitment, and data verification.

Saara Wastani: Statistical analysis, data interpretation, and manuscript editing.

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None.

Conflict of Interest

The authors declare no conflicts of interest in relation to this research study.

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None.

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