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Original Article

How happy are pregnant women?: A socio-demographic analysis

Reema Malhotra^a, Ritu Mudgal^b, Suhasini Dharmarha^b, Sakshi Mehta^b,
Shaily M. Bhola^{c,*}

^a Department of Psychology, University of Delhi, New Delhi 110007, India

^b Department of Psychology, Keshav Mahavidyalaya, University of Delhi, New Delhi 110034, India

^c Department of Chemistry, Aditi Mahavidyalaya, University of Delhi, New Delhi 110039, India

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ABSTRACT

Problem: The current research paper aims to study the nature and prevalence of happiness among Indian pregnant women, based on relevant socio-demographic variables.

Method: The Oxford Happiness Questionnaire (OHQ) was used as a measure of the degree of happiness. The sample consisted of 100 expectant women chosen randomly from nursing homes, dispensaries and child care clinics in Delhi NCR, India. All the participants belonged to the age range of 21–36 years, from middle income group.

Results: Pregnancy emerged as a period that elicits increase in the emotional states of women, with average happiness of 74.01% among Indian women. More than a quarter of the population (26%) experienced extremely high levels of happiness and none (0%) felt extremely or fairly unhappy. Furthermore, seven variables namely: age of the mother, working status of mother, type of family, family size, order of pregnancy, trimester and past medical complications were studied for varying degrees of happiness.

Conclusion: Majority of Indian women were found to experience high happiness during pregnancy. Bearing children at a younger age, medical fitness without past complications, family support and lesser work duties were variables that contributed the most on positive emotive states among pregnant women. This study raises implications in the area of obstetrics, mental healthcare, training for future doctors, family and couple counseling, healthcare facilities and therapeutic modalities.

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1. Introduction

“To be pregnant is to be vitally alive, thoroughly woman, and undoubtedly inhabited”.¹

Greek philosopher Aristotle² believed that, happiness is the central purpose of human life and existence, and that one's virtues lead to happiness. He, thus, defines happiness as “...the function of man is to live a certain kind of life, and this activity implies a rational principle, and the function of a

* Corresponding author.

E-mail address: malhotra.shaily@gmail.com (S. M. Bhola).

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good man is the good and noble performance of these, and if any action is well performed it is performed in accord with the appropriate excellence: if this is the case, then happiness turns out to be an activity of the soul in accordance with virtue".² A more recent definition of happiness is "a state of well-being and contentment".³ According to Yang,⁴ happiness involves the feelings of satisfaction and pleasure in various life aspects.

A leading name in the study of happiness is that of Martin Seligman, who is also considered as the father of positive psychology. According to Seligman,⁵ happiness is not derived solely from external and momentary pleasures, but also from internal one. He gave the acronym "PERMA", which summarizes Positive psychology's viewpoint on what makes human beings happy. Here, P = Pleasure (eg: delicious food), E = Engagement (eg: enjoying challenges of daily life), R = Relationships (eg: warm and stable social contacts), M = Meaning (eg: belongingness to a higher pursuit), and A = Accomplishments (eg: achievement of life objectives). He further outlined three dimensions of happiness namely, 'The Pleasant Life' i.e. appreciating basic pleasures such as relationships and physiological needs, the natural environment and our bodily needs, 'The Good Life' i.e. identifying our unique qualities and using them creatively to better our life quality, and 'The Meaningful Life' i.e. arriving at a deep satisfaction by putting our individual virtues towards a greater purpose.

Pregnancy is an experience full of growth, change, enrichment, and challenge. It is a time when to-be parents confront their fears and expectations about becoming parents and begin to determine parenting styles. Pregnancy gives women the pride they experience as they proceed on their way to give birth. It affects all expectant mothers in ways that profoundly affect the early mother-child relationship and the new parenthood. During 40 weeks of pregnancy, the expectant mother undergoes several physical, psychological emotional changes and cognitive changes, particularly in first time mothers.^{6,7} During the first trimester, new mothers are filled with a feeling of anxiety about losing their new baby as it is accompanied by symptoms like nausea, vomiting, dizziness.⁸ This is known as "morning sickness" and affects most of the pregnant women.⁹ Women suffering from greater such physical symptoms reported significantly more undesired pregnancies and negative relationships with their own mothers.¹⁰ Many mothers also begin to feel self-conscious about the weight they are putting on to support their baby, and these feelings can lead to low self-esteem. Worries about labor and childbirth are also common during the last three months of pregnancy. During this trimester, anxiety, emotional distress, depressive feelings¹¹ may be common and are affected by the mother's socioeconomic level and number of previous births. Hence, as has been highlighted above, a woman goes through numerous bodily, mental and social changes during pregnancy. Acceptance of pregnancy affects various aspects of maternal life, such as motivation in adapting to the maternal role, a positive feeling towards the fetus, internal motivation for self-care behavior, and adaptation postpartum.¹²

For a woman, the pregnancy experience includes planning to meet the physical needs of the baby, as well as adapting

herself to the future roles of motherhood. In a study by Messias, DeAnne, & DeJoseph,^{13,14} it was found that a first pregnancy transformed women's work, as they experienced significant shifts and transformations in personal and social identities and in the meanings, values, and priorities they attached to work. Motherhood, due to its cultural implications, is a fascinating social concept. The mother's behavior is heavily influenced by gender expectations. In numerous societies, when a woman does not achieve the status of motherhood, it is perceived as a failure because the woman fails to meet the gender role expectations.¹⁵ Hence, the foundation of these expectations lies within the cultural perceptions of motherhood. Furthermore, Thresia & Mohindra¹⁶ highlight three key gender biases in the southern parts of Asia (South India and Sri Lanka) on the basis of social stratification, such as class, ethnicity and/or caste. They observed a high degree of negligence towards women's health and insufficient interaction between genders as prevalent social influences. Maternal stress may increase the level of corticotrophin releasing hormone (CRH) in pregnancy^{17–19} that might lead to premature delivery. Thus, women under stress are about four times more likely than low-stress counterparts to deliver babies prematurely.²⁰ This may in-turn prove fatal and result in harming the child itself.²¹ On the family front, it is believed that male involvement in maternal health is relatively high, desirable, unique and affected by many factors. These include love, men's work demands, economic concerns and men's knowledge about pregnancy.²² Contrastingly, in a patriarchal society such as Maharashtra, men were excluded from maternal care as the community considers maternal care exclusively women's domain.²³

On the other hand, pregnant women who are optimistic thinkers have less adverse outcomes than pessimistic thinkers.²⁴ Thus, anxiety and life stress were significant contributors to abnormalities of pregnancy.²⁵ Positive appraisal is associated with less distress and a high level of stability in coping throughout pregnancy.²⁶ Furthermore, in healthy pregnant women, Leisure-time physical activity (LTPA) may be a potentially effective low-cost method of enhancing psychological well-being.²⁷

2. Methodology

2.1. Objective

1. To study the nature and prevalence of happiness among Indian pregnant women.
2. To determine the happiness measures of pregnancy based on relevant demographic variables.

3. Material

Oxford Happiness Questionnaire (OHQ) was used as a measure of degree of happiness. It is a highly standardized instrument devised by Hills & Argyle in 2002. It is based on Oxford Happiness Inventory (OHI), originally proposed in 1989 by Argyle, Martin & Crossland. OHQ comprises of 29 items, each statement can be endorsed on a uniform six-point Likert scale from 'strongly

agree' to 'strongly disagree'. Each item is presented on a single administration and 12 items are considered for reverse scoring. The alternate form reliability scores of OHQ varies from 0.73 to 0.94. OHQ is a highly stringent research instrument that has been administered cross-culturally on a wide variety of sample from diverse ethnic backgrounds including Indian,^{28–31} Iranian^{32–34} and Malaysian³⁵ women.

3.1. Sample

The sample for the current study consisted of 100 expectant women, with 20 women each from 5 cities of National Capital Region of Delhi (NCR) namely, New Delhi, Noida, Gurgaon, Faridabad and Ghaziabad. Random sampling procedures were used such that these women were tested during their visits to nursing homes, dispensaries and child care clinics from NCR. Table of random numbers applied to the maternity ward register ensured that all expectant women had an equal chance of blind selection. The age range of the subjects was 21–36 years and all of them belonged to the middle income group. It was also made sure that all participants easily understood the use of English medium.

3.2. Procedure

After seeking the informed consent of the participants, they were assured of their ethical rights such as confidentiality and anonymity. After giving appropriate instructions, OHQ was administered. They were permitted full freedom to fill the questionnaire as per their own pace and convenience. The questions were read out, when needed, while also addressing any clarifications and translations for better understanding. It was also ensured that the subject was comfortable, relaxed and at ease while filling the questionnaire. Also, the participants were given full freedom to leave the questionnaire unfilled, should they find it too taxing or stressful. The data was collected in this manner from 100 pregnant women.

3.3. Analysis

The total scores obtained by the sample of 100 pregnant women was exposed to a detailed descriptive statistical analysis to measure the combined mean score and standard deviation, as well as an inter-item break up. The frequency distribution based on the different ranges of happiness was also determined. In addition, happiness scores based on inter-comparisons between various classifications such as age (low age vs. high age), family size (small size vs. big size), family type (joint vs. nuclear), working status (working vs. non-working), trimester (first vs. second vs. third), order of pregnancy (first time vs. second time vs. third time) and past medical complications (complications vs. no complications). These scores were also depicted through a graphical representation.

the experience of happiness among pregnant women. Pregnancy is an experience of growth, change, enrichment and challenge. Pregnancy is an important turning point in the woman's life cycle with respect to anatomical, physiological and psychosocial changes. A expectant woman's happiness level could influence the fetal growth & development, sense of maternal competence as well as bonding with the fetus, which profoundly affects the nurturance of the infant after delivery.²⁸

The first objective of the current work was to study the nature and prevalence of happiness among Indian pregnant women. As can be seen in Table 1, on the 6-point OHQ scale, the mean raw score for the tested population was found to be 4.44, meaning thereby that percentage mean happiness among the tested Indian women was 74.01%. This corresponds to a mean standard deviation of 1.15, implying a greater consistency with respect to these happiness scores. This suggests that pregnancy is a period where feelings of joy and self-fulfillment are considerably high. Similar results have been seen in the work of Golmakani et al,³⁶ where 72.5% women were found to be happy during the process of pregnancy. Also, Jayasvasti & Kanchanatawan²⁸ administered Oxford Happiness Questionnaire (OHQ) on 438 pregnant women, selected randomly from King Chulalongkorn Memorial Hospital and found that a high level of happiness of 57.3% prevailed in this sample.

From the total pool of 29 items, the highest and the lowest scoring statements were also indicative of the behavioral and affective dynamics of pregnancy experience in general. As can be seen in Fig. 1, responses with extremely high happiness scores ranged from 88% to 82.17%, with corresponding SD measures varying from 1.1 to 1.03, respectively. Pregnancy experience seemed to make these women perceive life as highly rewarding and full of happiness. This is indicated by the most scoring items such as, "Life is good" (item 9), "I feel that life is very rewarding" (item 3) and "I find beauty in some things" (item 16). Pregnancy in itself was a highly gratifying period for a woman that makes her feel excited about the expecting baby and the idea of motherhood. Saroglou, Buxant & Tilquin³⁷ studied the relationship between positive emotions and spirituality. They found that spirituality was higher in participants who were shown videos expressing self-transcendent emotions, such as appreciation of nature and wonder at childbirth. Hence, this may explain how a pregnant woman finds beauty and good in the world around her.

On the other hand, the lowest percentage happiness ranged from 46.34% to 63.34%, with standard deviations ranging from 1.47 to 1.7. Item 2 ("I am intensely interested in other people") obtained the least happiness score of 46.34%, indicating that pregnant women's world lies in her own family and the expectant baby, whereas her interests in mingling with people of the outside world takes a backseat. Item 14 ("There

4. Results & discussion

Greek philosopher Aristotle believed that happiness is the core purpose of human life and existence, and that these positive virtues lead to happiness. Our present study centers around

Table 1 – Descriptive overall measures.

Mean raw score	Percentage mean	Standard deviation	Mean age	Mean family size
4.440689655	74.01149425	6.15042327	28.73	5.46

Fig. 1 – Mean happiness on highest and lowest scoring items on OHQ.

is a gap between what I would like to do and what I have done”), Item 23 (“I don't find it easy to make decisions”) and Item 19 (“I feel that I am not especially in control of my life”) received happiness scores of 56.83%, 60.16% and 63.34% respectively. This may be because pregnancy increases the woman's responsibility, such that she may have to do tasks for the sake of her child or family while neglecting her own choices. As a result, there are transformations in the meanings and values attached to her personal and social identities.^{13,14} In addition to the intra-psycho factors, the toll that the bodily changes has on physical health contribute to her discomfort, as indicated by item 5 (“I rarely wake up feeling rested”) that made them feel happy only half of the time with a score of 55.05%. Past literature has attributed decreased happiness to factors like maternal anxiety, life stress, history of depression, lack of social support, unintended pregnancy, domestic violence, lower income, lower education, smoking, single status, poor relationship and morning sickness.^{7–9} Furthermore, pregnant women may experience cognitive issues such as deterioration in attention, memory and recognition abilities. *Pregnancy Brain*, is a condition characterized by forgetfulness or short-term memory loss during pregnancy, with an inability to remember simple everyday tasks, often leading to frustration.^{38,39} However still, considering the fact that even the lowest scores fell in a moderate range, it may be said that despite these inhibiting factors, pregnancy was a phase that greatly reinforced the overall degree of happiness.

Moving further, Fig. 2 shows scores based on classification of happiness. It indicates that 0% of the tested pregnant women felt extremely (percentage happiness of $\leq 20\%$) or even fairly unhappy (percentage happiness of 20–40%), meaning that most of the women were happy during pregnancy due to the expected arrival of a new member in their lives and also due to the special attention they got during pregnancy. While only 9% felt moderately happy, a majority of 65% pregnant women lie in high happiness range of 60–80, with a mean happiness score of 72.6%. It is also interesting to note that about a quarter of the population (26% respondents) felt

Fig. 2 – Scores based on classification of happiness.

extremely happy ($\geq 80\%$) with a mean score of 84.32%. Overall, it can be said that pregnancy is a period that fosters profound positive emotions because of the special treatment extended by family members, extra attention from husband, anticipated motherhood etc. These variables are explored in detail in the next section of this work.

The second objective of the current work was to determine the happiness measures of pregnancy based on relevant demographic variables. Fig. 3 depicts the mean happiness scores along various demographic variables that seem to have a strong bearing on emotive states experienced during pregnancy. The age at which a woman conceives plays an important role in the happiness levels. Table 1 shows that the average age of conception was 28.73 years. As can be seen from the table, with increase in age, the happiness level decreases from 77.3% to 69%. Biological age is related to

Fig. 3 – Demographic variables and mean happiness scores.

decreased fertility, hormonal secretion, and physical agility and may lead to birth complications.⁴⁰ While childbirth at a later gestation age is today a more common phenomenon among the urban class, pregnancy at an advanced maternal age is found to be associated with higher health-related risks, adverse maternal and infant outcomes, causing high levels of anxiety and thereby reducing the happiness levels.^{41–44} A recent study by Brain D'Onofrio at Indiana University found that father's age plays an equivalent role in determining mental health of the baby.⁴⁵ While only 43% sample bore children below the mean age, a majority of 57% women preferred to become mothers at a later age. This postponement of pregnancy emerges as an interesting finding of this study, reflecting that a significant majority of young women belonging to metropolitan cities are preferring to rather emphasize on establishing their individual identities, becoming self-dependent, expanding their work domain and perhaps even delaying being married. This observation comes as a breakthrough for females of the younger generation of urban Indian culture, which traditionally believed women as a matter of family honor and as inherently responsible for domestic tasks different from that of a man. The Indian Hindu tradition is oppressive and discriminatory towards women, in that the attribution of her traditional roles of nurturance and care almost disempowers her from the mainstream tasks of the external world.⁴⁶ Notes Davar,⁴⁷ *“Even though the philosophy of care may be an experientially and morally superior alternative, high care combined with low negotiability, can be psychologically stressful... for most married women.”*

The work status, therefore, was the next contingent factor contributing to this study on happiness. Housewives and working women were almost equally divided with frequencies of 49% and 51%, respectively. While most of young women in India are struggling to establish themselves through their work identities, at the same time, it does seem to take a toll on the overall happiness scores. Working women were happy 72.8% of the times while housewives felt happy 76.2% of the times. Stress arising due to occupational responsibilities, meeting deadlines, completing tasks and commuting might lead to the pregnant woman feeling rarely rested. This increases her physical as well as mental exhaustion, thereby affecting the happiness level to a large extent. Therefore, pregnancy transforms women's work, as they experienced significant shifts and transformations in personal and social identities as well as in the meanings, values, and priorities they attached to work.^{13,14} While non-working pregnant women get ample amount of time to relax, the working lady faces double responsibilities of balancing work as well as the home front.

Family type was the next variable to be studied. Being a collectivist society, India has an age-old prevalence of the joint family system where people prefer to live together with members and siblings of various generations. Similarly, our results revealed that 63% of the population lived in a joint manner whereas only 37% had a nuclear home. Furthermore, the pregnant women living in joint families were found to be happier as compared to those in nuclear families with 75.8% and 71.2% happiness respectively. The pregnant lady has a tendency to experience mood swings like being angry, unreasonable, feeling good and depressed successively, being

tensed and unable to relax.⁴⁸ However, with more family members around them, it becomes easy for the pregnant women to share their feelings and thoughts, manage their emotions and reduce anxiety. In Indian societies, usually the presence of other females like mother or sister-in-law, helps pregnant women in day-to-day care, relaxed emotional states, sharing household duties and feelings of self-importance. Women in nuclear homes are usually either alone at home or have added domestic and professional chores, resulting in greater anxiety that reduces their happiness level. O'Hara⁴⁹ studied that pregnant women suffer from depression due to less family support they get during pregnancy. This shows that social support and life events play an important role in emotional regulation among pregnant women.

The family size may also affect the happiness level to a certain extent. The mean family size for the current sample was found to be 5.46. In about 60% of the homes, the families in the modern day were much smaller, implying towards issues of sustenance. However they had a lesser happiness of 71%. In about 40% of the sample, the family size was much higher than 5–6 members. Correspondingly, their happiness level also increased to 74.7%. Thus, the very presence of people greatly reduces the emotional and social states of loneliness for pregnant women, who must always experience a joyful atmosphere around herself. Also, Rook⁵⁰ provides evidence that companionship support increases happiness and decreases feelings of loneliness, which further brings positivity and makes things appealing.

The expectant mother also witnesses tumultuous bodily experience and undergoes strong physical changes. As a result, her happiness also changes throughout the course of these nine months. On the basis of her trimester, it was found that women in first trimester had the least mean score of 70.6%. During the first three months, these women are often fraught with feelings of anxiety about charting the entire painful course of pregnancy due to dramatic physical symptoms like nausea,⁵¹ insomnia,⁵² cramps⁵³ and perhaps even losing their unborn baby through complications like miscarriage⁵⁴ and stillbirths.⁵⁵ Thus, the overall happiness comes with feelings of tension and worry. With the highest mean happiness of 77%, 3–6 months is the time when the pregnant woman is fairly adjusted with biological changes associated with pregnancy and the chances of healthy pregnancy increase. This is also the time when women enjoy participating in sociable talks and activities with family, thereby receiving immense attention and pampering. The third trimester had the second highest mean happiness score of 74.5%. Many to-be-mothers, during 6–9 months period, begin to feel self-conscious about their weight-gain and have low self-esteem. Fears around the baby's arrival, like labor and birth are increasingly common during the last three months of pregnancy.⁵⁶

The order of pregnancy or previous births strongly affect the level of anxiety and distress experienced by pregnant women.⁵⁷ In the present study, women with first-time pregnancy were found to be happiest at 76.4%. This indicates that pregnancy brings several physical, psychological, emotional as well as cognitive changes, particularly in first-time mothers.^{58–62} It is a time when there is a shift in the life of a woman from mere adulthood to parenthood, which elicits

positive emotions of joy and elation. Although pregnancy is itself a happy experience but the level of happiness reduces to 73.8% at the time of second pregnancy, since the novelty is lesser and familiarization with the expected changes is far more. This decline in happiness level could also be because of an added concern about handling and taking care of both the children and dividing her time between them. As a result management strategies that worked with first child may not be effective with the second child.⁶³ The third time pregnancy further reduces the happiness level to 70.1%, perhaps with additional financial and domestic responsibilities. However, only 2% women in metropolitan cities chose to be pregnant the third time, suggesting that it was not a preferred choice.

Furthermore, the prevailing mental and emotional states of pregnant women are also affected by past medical complications. Only about 14% of the sample population suffered from past complications such as abortion, sudden pains, anaemia, high blood pressure, poor immunity and calcium deficiency, which is a fairly low percentage. This indicates that better nutritional and hospitality services are now available in metropolitan cities of India. As a result, the infant mortality rate of Indian population has shown a decline from 44 deaths per 1000 live births in 2011 to 42 in 2012.⁶⁴ However, this group suffered a higher distress with reduced happiness of 67%. This sharp decrease of about 8% happiness in comparison to the 'no complications' group (75.3%) reflects worries pertaining to the successful birth of the baby, fears about losing their child, future health issues or loss of control over their bodies.⁶⁵ Past literature strongly points towards the fact that women with obstetric and childbirth complications are prone to post-partum depression,⁶⁶ on the other hand absence of such complications often ensures a greater sense of well-being, shorter labor, few obstetric interventions⁶⁷ and healthier psychosocial adaptation.⁶⁸

5. Conclusion

The first objective of the current work was to study the nature and prevalence of happiness among Indian pregnant women. The findings show that pregnancy is indeed a period of happiness for the woman experiencing it, as out of the tested sample of 100 Indian pregnant women, none of them were found to be extremely or even fairly unhappy. The second objective of the current work was to determine the happiness measures of pregnancy based on relevant demographic variables. The findings show that various factors such as age of conception, family type (i.e. joint or nuclear), family size (i.e. number of members), occupation, order of pregnancy, current trimester and past medical complications greatly affected the prevailing emotional states of pregnant women and hence, the level of happiness they experienced. Hence, it may be concluded from this study that the experience of pregnancy blends a variety of emotions, with a particular increase in the overall degree of happy feelings. While it is surely a time of joy for the to-be mother, at the same time, there is also a share of stress for her due to worries like her wellness, baby's physical health, economic status, identity issues and prospective motherhood. Certain limitations of the

present study lie in a restricted sample of middle-class women from urban cities of India, not rendering the results as generalizable for whole of Indian and global population. However, the descriptive statistical measurement permits us to outline some important precursors that hold immense validity through its socio-demographic delineation.

The relevance of the present work can be realized by considering that most of the previous research on pregnant women is medical in nature, ignoring the psychological dimensions during the period of pregnancy. This study, in particular, raises for us the need for paying close attention to the mental wellness of the expectant mother. Happiness, as a contributor to the wellness of the mother and the fetus, is an imperative notion that has been further delineated according to its socio-demographic determinants. Moreover, pregnancy in India is perceived as a collective family circumstance, with much emphasis on traditional cultures and stereotypes, which may sometimes begin to impede the happiness quotient. The current study, therefore, attempts to bridge the gap prevalent in the past literature in the area of obstetrics, in a culturally specific manner. This paper also builds on the demographic preview of the realities and difficulties encountered by Indian women, thus, enabling future researchers to closely study the various physical changes attached to the psychological well-being of pregnant women. Its scope also lies in constructing training modules for budding doctors and incorporate family counseling in the therapeutic treatment of the pregnant.

Conflicts of interest

All authors have none to declare.

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