

# Are Disposable Diapers a Necessity? A Survey of Economically Deprived Mothers

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## ABSTRACT

**Background:** Idea of this research was conceived while working as a family physician in a socially deprived area of Islamabad Pakistan. There we saw many poor mothers spending lot of money for buying disposable diapers while their babies were nutritionally compromised. We were very interested to know the reasons behind so that we can counsel them effectively regarding making responsible choices for baby care. We believe this scenario will be commonly faced by Family Physician of developing world so this article will be very relevant to them

**Aim:** To explore mothers reasons for the choice. The information will be used to formulate strategy for providing young mothers factual information, for making an informed and responsible choice.

**Method:** A qualitative survey of thirty women, using unstructured interview guide.

**Statistical analysis** Key themes were identified and discussed after manual thematic content analysis.

**Results:** Disposable Diapers were considered healthy choice by mothers. Many were not aware of any alternative e.g. cloth diapers. First time mums were more likely to use disposable diapers. Media and friends play a crucial role. Mothers had no counseling by health care providers.

**Conclusion:** Mums should be counseled by health care providers to help them make an informed and responsible choice.

**Keywords:** Disposable diapers, Necessity, deprived mothers

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## INTRODUCTION

Since the last several decades, disposable diapers have been established as an alternative to cloth reusable diapers. In mid-seventies it was predicted by Koblenzer that 'time for disposal diaper is at hand and the end of the diaper pail is near'<sup>1</sup>. This prediction has very much come true as disposable diapers have become indispensable in baby care products in Western World<sup>2</sup>. According to a study in Canada 82.3% of mothers exclusively use disposable diapers<sup>3</sup>. The main reason given for this choice was ease and convenience.

Multinational companies are targeting developing countries as they see potentially big markets due to high birth rate, leading to increase use in these countries. We see disposable diapers being advertised everywhere, on T.V, road side, magazines etc<sup>4,5,6</sup>. It is quite possible that underprivileged mothers under the influence of these

messages may end up making choices which could compromise their child health rather than benefiting it.

Developing countries like Pakistan, where traditionally cloth diapers were widely used, are following western world, although economic and social circumstances are very different. According to World Bank Report 2013, 60% of Pakistani population is living under \$2 or Rs 200 a day International poverty line. It further points out that 45% of children under-five are severely malnourished<sup>7</sup>. Amidst this it is noticed that use of disposable diapers, a costly product, is increasingly becoming part of normal care of child in under privileged community, potentially compromising other necessary expenditures such as food. This is also even true for American population as one third of families are unable afford cost of disposable diapers<sup>8</sup>.

There are environmental and health issues linked with the use of disposable diapers as well. The non-biodegradable material used in super absorbent diapers is a matter of serious concern because of its toxic effects and environmental pollution<sup>9,10</sup>. An anaerobic environment is created in the landfills where disposable diapers end up, with the harmful methane emissions. It takes many decades for these materials to decompose. There are also concerns of contamination of food and water supply if disposable diapers are not disposed properly<sup>11</sup>. Child health and

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safety concerns involve increase risk of diaper dermatitis if cheaper brands are used<sup>12,13,14,15,16</sup>. There are also concerns about increase risk of urinary tract infections<sup>17, 18</sup>.

We are not sure if mothers of developing countries especially the ones belonging to poor and not so educated class are aware of these concerns or they are just following the trend without thinking about the consequences of their choice on their babies and environment.

This study is designed to explore and understand factors which influence choice of diapers among mothers living in a deprived setting. This will help to formulate policy and strategy to provide them with information on the basis of which they could make informed and responsible choices for their child.

## METHODOLOGY

This was a qualitative study conducted in Nurpur Shahan, a peri-urban slum settlement in Islamabad, Pakistan from November to December, 2015. The purpose of this study was to explore the usage of diapers for children by their mothers, keeping in mind the context of culture and socio-economic factors. The respondents of this study were women with at least one child less than 2 years of age, attending the Shifa Rotary Clinic at Nurpur Shahan. The sample size was 20 women, using non-random purposive sampling technique. A total of 30 women were approached and the detailed study purpose was explained to them. Our sample size comprised of the individuals who fully understood the purpose and gave verbal informed consent.

When we started interviewing the respondents we felt that based on similar circumstances, we achieved data saturation at 20 interviews. Another factor which governed this number was our resource and time constraints.

The data was collected by team of 3 interviewers. The team was provided with transport and communication facilities. The team members rehearsed the interview questions before. The research team comprised of 2 public health physicians and a family physician.

Each respondent was explained the purpose of the study and all her concerns were addressed. The confidentiality of all information was assured. Those, who finally agreed to participate, were asked to give verbal informed consent, considering the low literacy level of our study participants. The data was collected using an unstructured interview guide in Urdu language to avoid language barriers. The main areas of focus in the data collection tool were demographic details of the participants, their family and social

backgrounds and hygiene related practices in childcare. Each interview took around 0.5 – 1 hour. The interviews were audio taped wherever the permission was granted. The audiotapes were transcribed within 2 days of initial interview. The tapes were destroyed after 10 days of the interview. Moreover key themes were identified and discussed, after manual thematic content analysis.

## RESULTS

### Influence of friends, relatives, age and educational status of mother and place of delivery in promotion of use of Disposable Diapers:

All of the respondents said, they see friends and relatives using diapers' all the time'. One replied 'everybody uses them'. Two mothers said that they use it because it is embarrassing to have their children not wear diapers when they go out. Eleven out of twenty women indicated that they found out about diapers by watching Television and advertisements.

Table 1: Demographic data

No.	Age	No. children & ages	Place of delivery
1	35	2(6 year,7months)	Home (Dai)
2	28	3(5 yrs, 3yrm 2m)	Home (Dai)
3	25	2(6yr, 1 ½ yr)	Home (Dai)
4	22	2(1yr, 3m)	Home (Dai)
5	25	5(1-15yrs)	Home (Dai)
6	20	2(2yr,3m)	Hospital
7	35	8(18yr-3m)	Home (Dai)
8	25	3(6,5,1yrs)	Hospital
9	18	1(6m)	Home (Dai)
10	18	18m	Hospital
11	30	6(smallest 1 yr)	Hospital
12	30	8(smallest 6m)	Home
13	18	2m	Hospital
14	40	8(1-18YRS)	Home (Dai)
15	17	1(3m)	Hospital
16	25	2(2yr,3m)	Home (Dai)
17	18	1(2m)	Hospital
18	30	5(6m, 12yr)	Home (Dai)
19	35	8(22m, 14yrs)	Hospital
20	Unsure	2(3m, 4yr)	Hospital

The mother's ages ranged from 17-40 years of age with two of them being the second wives of their husbands. Younger mothers considered it a normal practice and one stated 'I am not aware of any other form of nappies!' An 18 years old mother of two months old baby indicated 'My husband bought diapers even before my child was born'. Another stated she got it first time as a gift when the baby was born.

Educational status of respondents varied from

being uneducated to metric, that is three mothers had done metric, 3 were uneducated and 3 had primary education. As 11 mothers did not respond to the question on educational status thus no significant association could be established between education and diaper use. No difference in diaper use was seen with child delivered at home or in hospital.

**Disposable Diaper associated with the health of the child:** Disposable diapers are considered to be good for the health of the child. This is the response that was given by all the mothers who were interviewed. A 25 yr old mother stated "One has to spend for the health of children".

Child stays dry, does not get sick, stays comfortable and sleeps well at night, were some of the reasons quoted by the mothers. It was general presumption among all the mothers interviewed that disposable diapers are healthy for the children.

None of the mother had anything to backup the statement "Diapers are good for the Health of the child". They said that they just knew and believed that this statement was correct. The only logical reason they could give was that the child does not stay wet and thus does not get sick. One mother said that her husband wants her to use diapers for her child as "He thinks that they are healthy and the child sleeps well at night". Almost all of the mothers being interviewed had no knowledge about any side effects of diapers like diaper dermatitis, the cause behind it or how to prevent it. This correlated to the fact that the population under study belonged to low socioeconomic background & low educational status.

**Frequency of use of Disposable Diapers:** Diaper use has become a part of normal activity in households with babies. No significant relationship was seen between the demographic variables and diaper use. Only association was seen in the number of diapers use with the household economic status. The mothers studied in this study belonged to Nurpur Shahaan which is in the suburbs of Islamabad and most of the families settled here belong to low socioeconomic background (monthly income Rs. 6000-Rs 40000). Many of the families lived in a combined family system with 8 to 22 members of household living together.

Total of 20 mothers interviewed can be grouped into two groups; first group included 9 mothers who used disposable diapers occasionally, that is generally at night time or when going out. Seven mothers out of this group had monthly income less than Rs. 10000. Second group comprised of 11 mothers who use disposable diapers most of the time. In this group frequency of diaper change in 24 hours was 2-3 times. Income range for this group was Rs 10000- Rs. 40000.

**Disposable Diapers a Necessary Expense:**

Although it was acknowledged by all the mothers being interviewed that diapers are expensive and it is hard for them to spare money to buy them but eight out of twenty women called it a necessary household expense. One lady justified it by saying that "It is necessary as my child sleeps comfortably at night".

A 25 years old mother stated "One has to spend for the health of children". Another mother pointed out that as she goes to work and takes her child with her thus even though it is expensive it is necessary for her. A young mother of a two month old baby boy pointed out that "This is my first child. Money is for tending to his needs". Another mother stated that "Children should be given the best things". Few of the mothers did not know how much they spend on diapers as husbands bring them other live in combined family system where any other member of family i.e. mother in law holds house hold money.

**Other use of money spent on disposable diapers:**

Nine mothers said that if they did not buy diapers they will use money to buy food and other necessary household items. Seven mothers said they could buy milk for other children.

**Disposable Diapers and Environmental Pollution:**

All of the respondents indicated that they threw the soiled diapers in the household garbage, which in turn is emptied in waste dumps in streets or nearby places. There is no waste disposal system in their community. One of the respondent inquired "Where else should I throw them"? None of the mothers questioned was aware of any environmental issues related to disposable diapers. A 30 years old mother surprisingly said that disposable diapers on the contrary keep the environment clean!

**Attitude towards information given by Healthcare providers:**

The trusted information that a health care provider whether it is a doctor, nurse, midwife or skilled birth attendant, is vital in helping parents make an informed choice. Four out of twenty respondents in the study had no knowledge of any other diaper type, eight mothers had knowledge of cloth diapers and eight did not give any response.

The study also indicated that twelve mothers had home deliveries, and eight had deliveries at hospital. All the respondents reflected that nobody approached them or educated them about types of diapers available and pros and cons of disposable diaper use. Seventeen mothers indicated that they will be willing to listen if they are given information. They were all receptive of the proposition of a healthcare provider informing them about the types of diapers, their pros and cons and other alternative methods, available in the market. Three mothers were indecisive.

Table 2: Household Economic Status

Pt #	Husbands Job	Number of members of Family living together	Household Monthly Income	Amount Spent on Diapers
1	Laborer	7 - Combined Family System	Rs 20000	Rs 1000
2	Driver	18- Combined Family System	Rs 40,000	Rs. 2,000
3	Driver	8- Combined Family System	Rs. 6000 +	Rs. 500
4	Laborer	22- Combined Family System		Rs. 500
5	Laborer	8	Rs. 10,000	Rs. 500
6	Painter	10- Combined Family System	Rs 7-8000	Rs. 1,500-2,000
7	Laborer	10-Combined Family system	Rs 20-25000	Rs. 500
8	Laborer	9 -Second wife & her children	Rs 15-20000	Rs 1000
9	Laborer	12 -Second wife & her children	Rs 15-20000	Rs. 500
10	Shopkeeper	14- Combined Family System		Rs. 2,000
11	Laborer,	8	Rs. 15000	Rs. 1,000-1,500
12	Unemployed, son works	10	Rs 4-5000	Not sure
13	Taxi driver	8- Combined Family System	Rs. 15,000	Rs. 1,000-2,000
14	Laborer	4	Rs 30,000	Rs. 2,000
15	Shopkeeper	10 -Combined Family System	Rs35000	unsure
16	Taxi driver	3	Rs 20-25000	unsure
17	Taxi Driver	10- Combined Family System	Rs 10-12000	Rs. 1,000-2,000
18	Laborer	14 –Second wife & her children	Rs 10-15000	Rs. 200-300
19	Office job	10	18000	Rs. 200-300
20	Shopkeeper	15- Combined Family System	10-12000	Rs. 1,000-1,500

## DISCUSSION

The diaper is an American term, its synonymous is Nappy” British term, is the kind of underwear used for babies before toilet training and handicapped adults. It is used to hold the urine and feces without spoiling the garments and surrounding. History of diapers is as old as in 1300,s when moss stuffed in seal skin was used as diaper. Latter on cloth and plastic nappies are used and now a day disposable diapers are in.

Our study showed first time mothers of several children, belonging to poor socioeconomic class both use disposable diapers and are fascinated by it. Young first time mothers are more likely to use them solely while older mothers tend to use them at night time and when going out to avoid accidents.

Money spent on disposable diapers form a substantial portion of monthly family income, but mothers consider it as necessary expenditure, perhaps as necessary as food, needed for child health and well being<sup>8</sup>. Most coated reason for their choice was same as their western counterparts’ that is ease and convenience of use<sup>3, 8</sup>. But none of the mother thought until probed to use money on food rather than on diapers. But once questioned they felt that if this money could be saved they will spend it on food. This shows lack of awareness and calls for more input by health care workers.

Another frequently coated reason for choice was the belief that diaper is healthy for the baby disposable diapers if not changed regularly can expose to Diaper dermatitis<sup>12,13,14,15,19,20</sup> and UTIs<sup>17,18</sup>

but none of the respondents were aware of the information. To save expenditure mothers avoid changing diapers frequently. Many respondents change only twice in twenty-four hours. This practice can lead to compromise of child health especially can lead nappy rash and urinary tract infection<sup>17, 10</sup>. Again health education seems a need to provide evidence based information.

We found these mums having no information of environmental issues. They are not aware of the risks posed by throwing used diapers in street dumps<sup>18, 10</sup>, this corresponds with their lack of education. All of them threw the used diapers in street dumps resulting in spread of infective diseases. Environment and its protection should be an important portion of our primary education.

Media and Television play an important part to influence mothers<sup>21</sup> but most mothers were influenced by seeing friends and relatives using disposable diapers. As mothers have no source of proper information so it is quite easy to be influenced by other people. It is seen that health care providers seldom discuss diaper choices with pregnant women as well as new mothers<sup>22</sup> in our study as well none of the mothers received any formal counseling from any health care personnel, even those who delivered in hospital. Most of the mothers seem quite open and willing to information provision by a health care worker. Obstetrician, midwives, health visitors and general practitioners are best suited to discuss and provide evidence based information before birth, on discharge from hospital and later in General Practice

clinics pro-actively so that mothers can make an informed choice rather than following blindly what they see on media or other people doing.

## CONCLUSION

Disposable Diapers are convenient to use but is a potentially avoidable expense in low income setting. Provision of evidence based and easily understandable information to mothers at right time can help them to make an informed choice. It is about ensuring that parents prioritize their child needs rightly rather than following blindly friends and relatives and being influenced by marketing campaigns of commercial companies. It is of vital importance that hospital doctors, primary care providers and community health workers, should counsel and educate parents during pregnancy, after delivery and in post-natal period.

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