Nasogastric tube (NGT) placement is a simple and frequently used procedure in children, especially in neonates, for various reasons. Both therapeutic and diagnostic purposes can be achieved with NGT insertion.

Neonates are nasal breathers for the first few months of life. Nasal obstruction in neonates may be complete or incomplete. Complete obstruction is a real medical emergency and life threatening to neonate until airway is secured. Incomplete or unilateral obstruction presents with mild symptoms in the form of snoring or sleep apnoea. There are multiple etiological reasons for neonatal nasal obstruction which include mucosal edema/inflammation, craniofacial malformation, choanal atresia and midline masses. Choanal atresia is one of the most common congenital anomalies of nose in neonates having an incidence of 8.2/100,000, leading to respiratory distress. Girls outnumber boys with a ratio of 2:1.

Stabilization of these neonates is the first step in the management and then further work-up can be done to diagnose the cause. There are multiple methods in use to locate the obstruction in newborns. NGT insertion is the simple and readily available method worldwide to check the nasal patency in newborns suspected of having obstruction. NGT placement, though simple, is an invasive procedure and not without risks. More sophisticated and detailed examination by the ENT physician with telescope and endoscope has evolved which provides anatomical details. There are newer techniques available which are non-invasive to check the nasal patency of newborns.

This study was conducted at King Khalid University Hospital, Riyadh and other tertiary care centers in Riyadh as well as different regions of the Kingdom. The study was designed in the form of survey and the objective was to assess the knowledge of medical staff (physicians) regarding the placement of NGT in newborns. Opinions were taken from the senior physicians including neonatologists (consultants and senior registrars in neonatology), general physicians (GP), pediatric surgeons, ENT surgeons and obstetricians from different regions of the Kingdom including South, North, West, East and Center (Riyadh). The objective of the study was explained to all of them and a text message was sent through mobile. Single question was asked and interpretation of response was simply in the form of ‘Yes’ (favour of insertion) or ‘No’ (not in favour of insertion).

The data was entered on Statistical Package of Social Sciences (SPSS) version 19 (SPSS, Inc, Chicago, IL, USA). Simple descriptive terms were used to interpret the result like frequency and percentage for qualitative data, including the response of the physicians. This study was approved by the Ethical Committee and Institutional Review Board of King Khalid University Hospital. This study was conducted according to principles of Helsinki Declaration.

A total of 103 doctors were sent text message; among those, 81 (78.6%) responded. Among the respondents, majority of physicians, 57 (70.3%) rejected the idea of insertion of NGT in a normal newborn but in 24 (29.6%), answer was to insert NGT in all the newborns before discharge to check the patency of nasal cavities. Regarding the position, region of doctors and their response, majority from Center said ‘No’ (not in favour of insertion) but from South, 17/18 (94.4%) said ‘Yes’ (in favour of insertion). Regarding other specialties, majority of them showed rejection of this idea. In conclusion, most of the healthcare professionals, directly involved with neonatal care, rejected the idea of routine insertion of NGT in normal newborn examination before discharge; rather, some non-invasive technique could be opted.
27%, 16%, 11%, and 27% were neonatologists, general physicians, obstetricians/ENT/pediatric surgeons, and SRN, respectively. Majority of physicians, 57 (70.3%) rejected the idea of insertion of NGT in a normal newborn but about 24 (29.6%) favoured to insert NGT in all the newborn examinations before discharge to check the patency of nasal cavities (Table I and Figure 1). Region-wise response showed a large number of physicians from South answered the question as ‘Yes’ (means to insert the NGT in all the newborns before discharge); and on the other hand, majority of respondents from Center rejected (answered ‘No’) as shown in Figure 2. Regarding other specialties such as ENT, obstetricians/pediatric surgeons, majority of them showed rejection of this idea.

Nasal obstruction in neonatal life is not an uncommon entity. Distressed neonate must be assessed for nasal obstruction like choanal atresia. Choanal atresia is second to mucosal edema in causing nasal obstruction with the frequency of 1/5,000 - 7,000 live births. Bilateral choanal atresia needs immediate resuscitation to relieve respiratory distress. Neonates should also be assessed for association or other congenital defects like full association. Nasal obstruction in neonates other than passing NGT. Toynbee auscultation tube to listen breath sounds is one of the simple methods to screen the nasal patency. Gentle blow of air into the nares with a politzer bag and looking for frosting on a mirror can detect nasal obstruction. Observing mist and movement on whisp of cotton placed in front of nares is also suggested by some studies. Instillation of methylene blue into the nose and examining the pharynx for the dye has also been described in the literature. There are multiple ways to detect the nasal obstruction in neonates other than passing NGT. Toynbee auscultation tube to listen breath sounds is one of the simple methods to screen the nasal patency. Gentle blow of air into the nares with a politzer bag and looking for frosting on a mirror can detect nasal obstruction. Observing mist and movement on whisp of cotton placed in front of nares is also suggested by some studies. Instillation of methylene blue into the nose and examining the pharynx for the dye has also been described in the literature. There are also simple method to check the nasal patency by a nursing stethoscope and hearing the breath sounds through the tube into each nostril with removal of chest piece.

Table I: Number / position of participants and their response rates.

<table>
<thead>
<tr>
<th>Response</th>
<th>NEON n (%)</th>
<th>SRN n (%)</th>
<th>GP n (%)</th>
<th>OBG/ENT/PED SURG n (%)</th>
<th>Total n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>9 (33.33)</td>
<td>6 (22.22)</td>
<td>5 (31.25)</td>
<td>4 (36.36)</td>
<td>24 (29.63)</td>
</tr>
<tr>
<td>No</td>
<td>18 (66.67)</td>
<td>21 (77.78)</td>
<td>11 (68.75)</td>
<td>7 (63.64)</td>
<td>57 (70.37)</td>
</tr>
<tr>
<td>Total</td>
<td>27 (33.33)</td>
<td>27 (33.33)</td>
<td>16 (19.76)</td>
<td>11 (13.58)</td>
<td>81</td>
</tr>
</tbody>
</table>

Neon = Neonatologist; SRN = Senior registrar neonatology; GP = General physician

Figure 1: Number/position of participants and their positive response rate.

Figure 2: Region-wise positive response about insertion of NGT in a normal newborn.
Majority of physicians rejected the idea of insertion of NGT in a normal newborn; but opinions from peripheral areas showed lack of updated knowledge regarding this simple procedure, not without hazards. Awareness can be created among the physicians practising in the relatively remote areas by conducting workshops and seminars to avoid placement of NGT insertion in a normal newborn, if he does not have high index of suspicion of nasal obstruction, to prevent iatrogenic complications.

Majority of the healthcare professionals, directly involved with neonatal care, rejected the idea of routine insertion of NGT in normal newborn examination before discharge; rather they opted for some non-invasive procedure.

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REFERENCES