Maternal Identity Development Education on Maternity Role Attainment and My Baby Perception of Primiparas

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Purpose  There are no interventional study results directed at maternal identity development education, including all stages of maternity role attainment, for expectant mothers with healthy babies. This research was conducted to assess the effect of maternal identity development education on the maternity role attainment and my baby perception of primigravidas.

Methods  The research was carried out by using pretest-posttest quasi-experimental model with control group. A total of 120 mothers and their babies participated in this study. In the collection of the data, Personal Information Form, Semantic Differentiation Scale-Myself as Mother and My Baby and the Pharis Self-Confidence Scale were used.

Results  It was detected that the training of identification development given for the mothers increased score averages taken from the scales of Myself as Mother, My Baby and the Pharis Self-Confidence Scale; this increase was statistically significant. There was a significant positive correlation between the Pharis Self-Confidence Scale post-test score averages and scales of Myself as Mother and My Baby.

Conclusions  Nurses should offer maternal identity development education, support the baby perception process in the early postnatal stages, and help develop the self-confidence of the mother in order for mothers to develop successful motherhood behaviors. Maternal identity development education should be routinely offered to all expectant mothers by specialized nurses, not just to primigravidas. There is a requirement for similar studies to be conducted on broader populations related to the subject. [Asian Nursing Research 2011;5(2):108–117]

Key Words  education, maternity nursing, nursing, Turkey

INTRODUCTION

Maternal identity development is a process directed towards the adoption of maternal behaviors. In this process, the construction of maternal identity indicates attaining maternity role, that is, becoming a mother. Meighan and Mercer define role performance process as the attainment of maternity role and
achievement of the ability to incorporate maternal behaviors in the established order (Meighan & Mercer, 2006). This process emerges with each newborn child, and it is experienced in four phases. Phases in the Process (Mercer, 2006; Taskin, 2007): (a) expectation phase, preparation for an infant during pregnancy; (b) formal phase, acquaintance with and increasing attachment to the infant, learning how to care for the infant, and physical restoration during the early weeks following birth; (c) informal phase, a new normal mother gains increased confidence in caring for her infant, relating to her intimate partner as a coparent, establishing new family routines, and defining family responsibilities and boundaries; (d) personal phase, her pleasure in mother-infant interchange, love for her infant, and feeling of competence are evident as she achieves a maternal identity.

Each of these phases is affected by the relationship between the mother and the father, as well as by the family function, important persons, stress, and social support (Mercer, 2004, 2006; Taskin, 2007; Meighan & Mercer, 2006).

Although having a baby is a pleasing and joyful experience for the parents in the family life cycle, it is considered a difficult period since it brings along a change that requires a new role and responsibility (Taskin, 2007). A mother who has given birth for the first time may feel anxiety about her own competence and efficiency and about how to look after her baby after birth and how to meet the baby’s needs (Bager, Mucuk, Korkmaz, & Sevig, 2005; Foster, Hunsberger, & Anderson, 1990). During this period, parents have to provide baby care, create a safe environment for the baby, communicate with the baby, learn new roles, develop family sensibility and cope with problems arising from the baby (Seker, 2006). It has been emphasized that the education provided to mothers about self-care and baby care is effective in relieving the anxiety of mothers and increasing their sense of competence (Beger & Cook, 1998; Marks, 1998; Taskin).

Studies conducted to date emphasize the factors that affect maternity role attainment (Kiehl & White, 2003; Mercer, 1981, 1985, 2006; Mercer & Walker, 2006; Nelson, 2003; Walker, Crain & Thompson, 1986). In a similar way, the studies conducted in our country define the factors affecting the adaptation to motherhood (Baser et al., 2005; Çalışir, 2003; Güngör, Gökyıldız & Nahcivan, 2004; Top, Erbil, & Yılmaz, 2005). Interventional studies have been conducted on primigravida adolescents (Koniak-Griffin & Verzemnieks, 1991) and mothers with premature babies (Black, Holditch-Davis, & Miles, 2009). As a result, there are no interventional study results directed at maternal identity development education (MIDE), including all stages of maternity role attainment, for expectant mothers with healthy babies. Accordingly, providing antenatal mothers with information regarding the fetus and pregnancy, and supplying individualized care and consultancy services regarding factors that affect competency emotions required caring for themselves and their babies, are extremely important in terms of maternity role attainment and developing the baby’s perception. In the hospital, where investigation was carried out, nurse did not provide any services to prospective mother about maternal role attainment and my baby perception. It is a fact that a mother with attained maternity role behaviors and self-confidence will provide her baby with better care (Karaçam, 2008; Taskin, 2007).

The purpose of this study is to analyze the effect MIDE have on primigravida attaining maternal identity, their perception of my baby, and the self-confidence of the mother. First, we hypothesize that MIDE has a positive effect on maternal identity attainment in primiparas. Second, we hypothesize that MIDE has a positive effect on my baby perception in primiparas. Third, we hypothesize that MIDE has a positive effect on the self-confidence in primiparas.

**METHODS**

**Population and sampling of the research**

The research was conducted as a pretest-posttest quasi-experimental model with a control group between June 2008 and February 2010 in the Polyclinics of
The research population consisted of primigravida’s women who applied to the polyclinics of Nene Hatun Maternity Hospital between the above mentioned dates to receive antenatal care. Before the investigation, power analysis was used to decide the number of participants for sampling. In the case of 50 participants (pregnant women) in each group, medium effect size with 95% confidence interval, 0.05 margin of error, it was calculated investigation would be at least .80 for $t$ test. It is thought that some participants may leave the investigation so that 60 participants were taken in each of the experimental and control groups. Our research started with 120 participants and ended with 120 participants. Özdamar (2003) explained that in experimental studies at least 30 people needed to meet the minimum sample size before the research can be done. After considering Özdamar’s suggestion, we decided the number of sampling in our study was adequate. These conditions are determined by taking into consideration the number of groups investigated. The sample was selected from a population by nonprobability random sampling method, and included primigravidas who were at least primary school graduates, 30 weeks or above during their pregnancy (as the baby will have a chance to live in the event of a live birth), between 18 and 45 years of age, married and living with their husbands in the city center, open to communication and cooperation and who did not carry any risks for maternal and infant health (Figure 1).

**Data collection tools**

*Personal Information Form*

This form was prepared by the researchers in line with the literature (Karaçam, 2008; Takin, 2007) and consisted of 12 questions about descriptive characteristics such as the age, education level, work status, family type, marriage period, socioeconomic status of primiparas as well as the baby’s sex, planned status of pregnancy, and the social support received by the mother about breast feeding and health condition.

*Semantic Differential Scale-Myself as Mother*

This measures the evaluation dimensions of “myself as mother” concept. Scoring was obtained by using 11 items of a 22-item scale. These 11 items were distributed among the 22-item opposite adjective pairs (e.g., in the event that the fast-slow adjective pair was taken into consideration for scoring, the moving-non-moving adjective pair was eliminated). Eleven items constitutes 11 opposite adjective pairs with a 7-point. In order to prevent the participants from giving biased answers, three items were assessed by reverse scoring. The third, seventh and eighth items were assessed over “one” point instead of “seven” points.

The validity and reliability study of the Turkish version of the scale defined by Walker (1986), based on the factor analysis of responses given by 104 mothers, was conducted by Çalisir (2003). Higher total scores obtained from the scale indicate positive self-assessment of motherhood. The lowest and highest points to be obtained from “Myself as Mother” scale are 11 and 77, respectively. The Cronbach’s alpha of this scale was found to be .81 – .85 by Walker, and .73–.74 by Çalisir. In this study, Cronbach’s alpha of this scale was .69.

*Semantic Differential Scale-My Baby*

This measures the assessment dimensions of “my baby” concept. The 6-item scale consists of six semantically opposite adjective pairs with a 7-point scale between them. These six items are distributed among 21-item opposite adjective pairs in the scale. In order to prevent the participants from giving biased answers, three items were assessed by reverse scoring. The scale was defined by Walker, and the Cronbach’s alpha for the scale was .64–.77. Çalisir (2003) conducted the validity and reliability study of Turkish version of the scale and its Cronbach’s alpha was .54–.55. In our study, Cronbach’s alpha reliability coefficient of the scale was determined as .68. Higher total scores indicate positive perception of “my baby”. The lowest and highest scores to be obtained from this scale are 6 and 42, respectively.
Pharis Self-Confidence Scale
This form was developed by Pharis, and its internal consistency reliability was found as .71–.91 by Walker (Çalisir, 2003). The scale is a 13-item, 5-point measurement instrument which measures a parent’s self-confidence in daily baby care. Each baby care item was rated as not at all (1 point), little (2 points), moderate (3 points), very (4 points) and a great deal (5 points). Higher total scores indicate high levels of self-confidence in baby care. The lowest and highest scores from this scale are 13 and 65, respectively. In the research conducted by Çalisir, Cronbach’s alpha was found to be between .85 and .86 (Çalisir). In our study, Cronbach’s alpha reliability coefficient of the scale was .85.

Data collection
In the research, the pregnant women who applied to the polyclinic in the first and third weeks of each month was assigned to the control group, while those who applied to the polyclinic in the second and fourth weeks were assigned to the experimental group. The pregnant women in the experimental and control groups, who were at their 30-week of pregnancy or above, were applied pretests after their informed consent about the research was given to communicate and cooperate. Maternity role attainment and my baby perception

Figure 1. Study design.
received. After the pretest, the expectant mothers in the experimental group were given MIDE, and an education booklet which was prepared by the researchers and which included information on maternal identity development. The women in the experimental group received a second individualized education at the hospital after delivery or at home in the first week after natal. Posttest data were obtained during the home visits paid to women in the experimental and control groups 4 months after delivery, because the maternal identity development is achieved around 4 months (Mercer, 2004, 2006).

**Nursing intervention**

In the hospital where the research was conducted, expectant mothers do not receive any nursing applications on maternity role attainment and my baby perception. For that matter, pregnant women in the experimental group of the study were given MIDE prepared within the scope of Mercer’s Becoming a Mother Theory, (Meighan & Mercer, 2006; Mercer, 2004, 2006) after the pretest application. The education was given, which included the four stages of maternity role attainment in prenatal and postnatal period.

The maternal identity development education aims to establish maternity role attainment earlier by minimizing the effect of adverse environmental factors and activating social support resources. Education was provided to expectant mothers for about 30 minutes verbally and by slides. Twenty of the 30-minute education covered active education, and the questions of expectant mothers were answers in the remaining 10 minutes. The first session was given in groups of four to primiparas who applied to the polyclinic to receive antenatal care in their 30th week of pregnancy or above. The first stage of the education was given to primigravidas, registered for antenatal care, at the training room of the hospital, by the researcher. The second stage was given on individual basis by using the same method and same time period before mothers were discharged from hospital after delivery or during home visits paid to mothers in the first weeks after delivery.

After the education, the Maternal Identity Development Booklet was given to the pregnant women. The education booklet contains information about the phases of deciding to be a parent, adaptation to motherhood and maternal identity development, as well as the functions to be fulfilled by women in these phases. The mothers in the control group were given the same education after the posttest application, and the education booklet.

According to phases of Maternal Identity Development Booklet the content of education follows: (a) expectation phase, factors influencing the development of maternal identity, developmental factors during pregnancy, the importance of breastfeeding, maternal compliance issues were discussed; (b) formal phase, the mother’s own care, newborn characteristics and care were described; (c) informal phase, implementing the role of motherhood with other roles and responsibilities of the family were repeated; (d) personal phase, as a mother, the importance of mother-infant relationship was stressed (Mercer, 2006).

No participants withdrew from the education as mothers received different types of information about babies until the end of MIDE were conducted at the mothers’ houses.

**Ethical considerations**

Before the initiation of the research, written permission was received from the hospital where the research would be conducted. The research was initiated upon the ethics committee decision no. 2008.4.1/K dated October 30, 2008 of the Ethics Committee of the Institute of Medical Sciences at Ataturk University. Necessary attention was paid to ensure that women included in the research were voluntary and willing to participate, and they were told that they were free to accept or reject to participate in the research (Karatas, 2000).

**Data analysis**

Data obtained at the end of the research were assessed by using SPSS 13.0 (SPSS Inc., Chicago, IL, USA) packet program. Percentage, chi-square test, t test in dependent and independent groups, multivariate
test and Pearson correlation analysis were used in the assessment.

RESULTS

Descriptive characteristics
Comparison of experimental and control groups according to the descriptive characteristics of mothers and babies is given in Table 1.

There were no statistically significant difference between the experimental group and the control group in terms of the descriptive characteristics of mothers and babies ($p > .05$, Table 1).

Effect of MIDE on the level of myself as Mother
Pretest score averages obtained from “Myself as Mother” Scale by the mothers in the experimental group before maternal identity development education ($60.81 \pm 6.88$) were found to have increased significantly after the given education ($63.15 \pm 5.43$; $p < .001$). No difference was observed between the average pretest and posttest scores obtained by control group mothers from “Myself as Mother” Scale. The intergroup comparison revealed that there was no statistically significant difference between the pretest score averages of the mothers in the experimental and control groups, while the posttest score averages of mothers in the experimental group after maternal

<table>
<thead>
<tr>
<th>Features</th>
<th>Experimental group ($n = 60$)</th>
<th>Control group ($n = 60$)</th>
<th>Total</th>
<th>$\chi^2$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17–25</td>
<td>39 (65)</td>
<td>42 (70)</td>
<td>81</td>
<td>0.342</td>
<td>.559</td>
</tr>
<tr>
<td>26–35</td>
<td>21 (35)</td>
<td>18 (30.5)</td>
<td>39</td>
<td>32.8</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary school</td>
<td>14 (23.3)</td>
<td>14 (23.3)</td>
<td>28</td>
<td>1.118</td>
<td>.773</td>
</tr>
<tr>
<td>Secondary school</td>
<td>5 (8.3)</td>
<td>8 (13.3)</td>
<td>13</td>
<td>10.8</td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>22 (36.7)</td>
<td>18 (30.1)</td>
<td>40</td>
<td>33.4</td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>19 (31.7)</td>
<td>20 (33.3)</td>
<td>39</td>
<td>32.5</td>
<td></td>
</tr>
<tr>
<td>Family type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear family</td>
<td>43 (71.7)</td>
<td>37 (61.7)</td>
<td>80</td>
<td>1.350</td>
<td>.245</td>
</tr>
<tr>
<td>Extended family</td>
<td>17 (28.3)</td>
<td>23 (38.3)</td>
<td>40</td>
<td>33.3</td>
<td></td>
</tr>
<tr>
<td>Duration of marriage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 yr</td>
<td>21 (35)</td>
<td>18 (30)</td>
<td>39</td>
<td>0.348</td>
<td>.840</td>
</tr>
<tr>
<td>1–3 yr</td>
<td>37 (61.7)</td>
<td>40 (67.7)</td>
<td>77</td>
<td>64.2</td>
<td></td>
</tr>
<tr>
<td>4–10 yr</td>
<td>2 (3.3)</td>
<td>2 (3.3)</td>
<td>4</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>If pregnancy is being planned</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>As planned</td>
<td>43 (71.7)</td>
<td>47 (78.3)</td>
<td>90</td>
<td>0.711</td>
<td>.399</td>
</tr>
<tr>
<td>Not planned</td>
<td>17 (28.3)</td>
<td>13 (21.7)</td>
<td>30</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Baby’s sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>33 (55)</td>
<td>28 (46.7)</td>
<td>61</td>
<td>0.834</td>
<td>.361</td>
</tr>
<tr>
<td>Male</td>
<td>27 (45)</td>
<td>32 (53.3)</td>
<td>59</td>
<td>49.2</td>
<td></td>
</tr>
</tbody>
</table>
identity development education was higher (63.15 ± 5.43) compared to the control group (60.75 ± 6.68), and the difference found was statistically significant (p = .033, Table 2).

**Effect of MIDE on the level of my baby**
Pretest score averages of “My Baby” Scale obtained by the mothers in the experimental group of the study (33.46 ± 4.39) were found to have increased significantly after the given education (36.46 ± 7.65; p = .001). On the other hand, no statistically significant difference was observed between the pretest and posttest score averages obtained by the control group mothers from "My Baby" Scale (p = .159, Table 3).

The intergroup comparison of the mothers’ score averages from “My Baby” Scale revealed no statistically significant difference between the pretest score averages of mothers in the experimental and control groups, while the posttest score averages of “My Baby” Scale obtained by the mothers in the experimental group after maternal identity development education were found to be significantly higher (36.46 ± 7.65; p = .038, Table 3) compared to the control group.

**Effect of MIDE on the level of self-confidence**
The pretest score averages of Pharis Self-confidence Scale obtained by the mothers in the experimental group of the study (44.93 ± 8.95) were determined to have increased after the given education (47.85 ± 6.97), and the difference was found to be statistically significant (p < .001). On the other hand, no statistically significant difference was observed between the pretest and posttest score averages obtained by the control group mothers from Pharis Self-confidence Scale (p = .214, Table 4).

The inter-group comparison of the mothers’ score averages from Pharis Self-confidence Scale revealed no statistically significant difference between the pretest score averages of mothers in the experimental and control groups, while the posttest score averages

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**Table 2**

<table>
<thead>
<tr>
<th>Myself as Mother Scale</th>
<th>Pretest M ± SD</th>
<th>Posttest M ± SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>60.81 ± 6.88</td>
<td>63.15 ± 5.43</td>
<td>6.478</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Control group</td>
<td>61.01 ± 6.50</td>
<td>60.75 ± 6.68</td>
<td>0.164</td>
<td>.870</td>
</tr>
</tbody>
</table>

**Table 3**

<table>
<thead>
<tr>
<th>My Baby Scale</th>
<th>Pretest M ± SD</th>
<th>Posttest M ± SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>33.46 ± 4.39</td>
<td>36.46 ± 7.65</td>
<td>3.378</td>
<td>.001</td>
</tr>
<tr>
<td>Control group</td>
<td>33.73 ± 5.10</td>
<td>34 ± 4.89</td>
<td>1.426</td>
<td>.159</td>
</tr>
</tbody>
</table>

**Table 4**

<table>
<thead>
<tr>
<th>Pharis Self-confidence Scale</th>
<th>Pretest M ± SD</th>
<th>Posttest M ± SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>44.93 ± 8.95</td>
<td>47.85 ± 6.97</td>
<td>6.742</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Control group</td>
<td>42.65 ± 9.36</td>
<td>42.96 ± 8.72</td>
<td>1.256</td>
<td>.214</td>
</tr>
</tbody>
</table>

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obtained by the mothers in the experimental group after maternal identity development education were found to be significantly higher (47.85 ± 6.97) compared to the control group (42.96 ± 8.72; \( p = .001 \); Table 4).

**Posttest scores of self-confidence, myself as mother, and my baby**

The relationship among the posttest score averages obtained by the mothers from Pharis Self-confidence Scale and “Myself as Mother” and “My Baby” Scales are given in Table 5. A positively significant relationship was found between the posttest score averages of Pharis Self-confidence Scale and “Myself as Mother” and “My Baby” Scales. In line with the findings obtained from the research, it was determined that mothers’ self-confidence increases in parallel with the increase in maternal identity attainment and “my baby” perception (\( p < .001 \), Table 5).

**DISCUSSION**

This study analyzed the effect maternal identity development education has on maternity role attainment of primiparas, their perception of my baby, and the self-confidence of the mother. Education and consultancy services given in the prenatal period and continued through the postnatal period are effective on the development of maternal and infant health (Arslan & Uzun, 2008; Baser et al., 2005; Beydag, 2007). The limitation of this study is the low validity level of the scales used in the study: “Myself as Mother” Scale and “My Baby” Scale.

The level of maternal identity attainment of mothers given MIDE in experimental group was found to be at a higher level than that of mothers in the control group. Education given to mothers about self-care and baby care might be effective on relieving mothers’ worries and increasing their sense of competence, and maternal identity attainment. Our findings are consistent with those of the others (Çalisir, 2003; Fowles, 1998; Kiehl & White, 2003; Sarikaya & Basbakkal, 2004; Zabielski, 1994). MIDE seems to be important before and after birth for expectant mothers.

It was determined that my baby perception of the mothers included in the experimental group of the study increased after MIDE, and that the difference between the pretest and posttest of my baby perception’s level of mothers was statistically significant. However, in this study, the level of my baby perception of mothers in experimental group was found to be higher than that of mothers in the control group. Similarly, Çalisir (2003), Sarikaya and Basbakkal (2004) reported that the mothers’ my baby perception to be higher than that of the control group. Additionally, Altun (2003), and Korkmaz (2003) determined that adolescent pregnant women had a positive perception of their babies after the education given to adolescent pregnant women. The research results comply with the given study results. It is a natural result that mothers’ positive perception related to their babies is strengthened with education and interpretation and develops better in the antenatal phase. MIDE should be given for the positive development of my baby perceptions.

Mercer (1985) states that mothers attain baby care skills until the fourth month after delivery and thus improve their self-confidence. In addition to information, physical and psycho-social support plays an important role in establishing self-confidence. It was concluded in this study that the age of mothers in the experimental group had a positive effect on self-confidence. In the study, it was determined that self-confidence pretest level of the mothers included in the experimental group increased after MIDE, and the difference was found to be statistically significant. The level of self-confidence of mothers...
in experimental group was found to be higher than that of the mothers in control group. This result confirms the positive contribution of maternal identity development education in increasing the self-confidence score averages of mothers. Çalisir (2003), Sarikaya and Basbakkal (2004) determined the scores to be higher in the mothers’ self-confidence. The above mentioned results show similarities with the results obtained from the present study. Additionally, it was noted by Yildiz (2008) that social support such as providing parents with information and consultancy was effective in increasing the awareness of parents about their baby care and parenthood skills. It is said that role attainment and positive my baby perception are strengthened by the education to improve a mother’s self-confidence.

In the study, a positive significant relationship was found among the self-confidence of mothers, their maternity role attainment, and “my baby” perception ($p < .001$, Table 5). It was also determined that mothers’ self-confidence increased in parallel with the increase in maternal identity attainment and “my baby” perception. In another study conducted by Koniak-Griffin and Verzemnieks (1991) on the effect of nursing intervention in maternity role attainment in primipara adolescents, a positive correlation was found between maternal identity attainment and the increase in my baby perception of the mother. This finding is in agreement with the results obtained in this study.

CONCLUSION

MIDE for mothers was found to have significantly increased the identity of becoming a mother, their baby perception and the self-confidence of mothers. Nurses should offer maternal identity development education before and after birth for expectant mothers, support the baby perception process in the early postnatal stages, and help develop the self-confidence of the mother in order for mothers to develop successful motherhood behaviors. Maternal identity development education should be routinely offered to all expectant mothers by specialized nurses, not just to primigravidas. Due to the low validity level of the “Myself as Mother” Scale and “My Baby” Scale in this study, it is important that these tools are retested. There is a requirement for similar studies to be conducted on broader populations related to the subject. Additionally, the effect of mothers’ characteristics have on maternity role attainment and perception of my baby may be investigated in these studies.

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