

Why Missed Attendance among Children High at Well Child Clinics in Primary Care: A Literature Review

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Abstract: Children are minority age group who depend on parents or guardians to access healthcare services. Failure to bring children to attend their scheduled appointment at well child clinics in primary care were also known as child neglect. Missed attendance at well child clinics in primary care among children is a chronic challenge all around the world. It has caused great loss to healthcare in terms of costs and time due to underutilization of resources. It also affects the quality of patient's treatment and outcome due to late detection. Many studies were found investigating factors contributing to missed attendance among adults at primary care. However, limited studies were carried out focusing on factors associated with missed attendance among children at well child clinics in primary care. This literature review aims to identify factors associated with missed attendance among children accessing preventive services in primary care using Theory of Planned Behavior as the theoretical framework. Based on previous literatures, factors identified were grouped into parents/guardians' factors, children factors and healthcare services factors. The factors identified were preventable and measures can be taken to intervene this chronic problem.

Key Word: Missed attendance; Children; Well Child Clinics; Primary Care.

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I. Introduction

Missed attendance to clinic appointment in healthcare is a common scenario globally. Based on Oxford Dictionary, missed attendance is a term used when someone did not present at a place or event when they are supposed to. Missed attendance to primary care, also known as 'missed appointment' or 'do not attend' or 'was not brought', is used when children do not attend their planned appointment in primary care without giving any prior notice¹⁻³. Terminology of 'do not attend' was commonly used for children who missed attendance to healthcare appointments instead of 'was not brought' which might camouflage the missed attendance issues relating to children such as child maltreatment and safeguarding^{1,4}.

Missed attendance to primary care is frequently seen among children due to their dependency on their parents or guardians to bring them to attend appointments^{1,5}. Many parents/guardians may not see significance of preventive care and relate attending to primary care when their child is not feeling well⁶. Missed attendance can be divided into occasionally missed attendance and serially missed attendance. According to Williamson et al, patients who occasionally missed their attendance usually have an unavoidable crisis or an understandable situation. On the other hand, the patients who serially missed their attendance usually have house instability, social problem, mental health and financial instability⁷. All children have the right to access healthcare^{1,8} and repeated or frequent missed attendance for follow up can be viewed as possible child neglect⁹.

Many published journals have explored missed attendance in primary and secondary health care setting¹⁰. However, limited studies were found focusing on missed attendance at primary care especially among children. In contribution to this subject matter, the objective of this literature review is to identify the factors related to miss attendance among children at well child clinics in primary care. The findings from this study can be a basis to develop new policies, strategies for interventions and strengthening of programs to uplift the child health care system.

Global Scenario of Missed Attendance at Primary Care among Children

Missed attendance among children to healthcare happened in all parts of the world. Missed attendance to healthcare system has caused more than \$1.5 billion a year¹¹. Routine follow up among healthy children is a part of preventive services for children in primary care¹². Children who missed their routine follow up may hamper their preventive care⁶.

In America, the American Academy of Paediatrics (AAP) recommended at least 13 well-care visits from birth to age 6 years old which covers everything from immunization to developmental screening and preventive care¹³. On average, 56.3% of children age 0-18 years old missed their well-care visits in a 12 months period study¹⁴. Based on a recent study done by Wolf et al. 2018, it was shown that 15- and 18-months visits

(41%–75%) and 4-year visit (19%–49%) were the least frequently attended¹⁵. In America, missing well-care visits can be associated with higher number of emergency department visits and admissions¹⁶.

In the UK, the National Healthy Child Programme is for children age 0-5 and 5-19 years old focusing on intervention in the early years which offers a scheduled health and development reviews and immunizations^{17, 18}. However, based on National Health Service general practice data from 2013-2016, 5.2% - 15% of children age 0 – 15 years old missed their attendance to general practice appointment within 3 years study period¹⁹. Missing attendance to general practise costs National Health Service of England more than £216 million each year²⁰.

Missed attendance to primary care is also common in Australia. In a two-year cohort study (2011 to 2013) done by Nancarrow et al., about 7.5% missed attendance happened in Australian primary care¹⁰. In Australia, Maternal and Child Health Services is a part of primary care services which offers free preventive care through the well-childcare visit for children age between age 0-6 years old^{21, 22}. The well-childcare visits require parents to bring their children at: 2, 4, 8 weeks; 4, 8, 12 and 18 months; 2 and 3.5 years to the general practitioner²³. However, this service is not well utilised by the non-Australian born mothers. Only 35% of refugee mothers in Victoria make it to their 3.5 years old well-childcare visit as compared to 65% of Australian-born mothers (not including the Indigenous population)²¹. A case study done in Sydney found that children with mother born overseas (p value = 0.034) receive less well-childcare activities which could be due to their culture and linguistic diversities²².

According to World Health Organization (WHO) Regional Office of Africa, children living in sub-Saharan Africa are 14 times at higher risk to die before their fifth birthday as compared to children in developed regions of Africa²⁴. In Ethiopia, undernutrition causes about 51% of childhood deaths²⁵. Based on UNICEF standard, children attendance for Growth Monitoring and Promotion (GMP) program in the well-baby clinic must be above 80%²⁶. However, data from Ethiopian health district office showed that the attendance rate to Growth Monitoring and Promotion (GMP) programme was low for 2 consecutive years in 2013 (39%) and 2014 (49%)²⁷.

Scenario in Asia, in Japan, the Maternal and Child Health Law required the children to go for check-up at 4 months, 1.5 years and 3 years of age²⁸. Based on a longitudinal study done, the attendance rate to child health check ups reduces with the increase of age. The attendance rates were 99.6% at 1 month, 97.5% at 4 months, 97.4% at 1.5 years, and 96.0% at 3 years of age²⁸. In Thailand, the Thai pediatric society produced a guideline on child developmental screening (DSPM) on children at well child clinic²⁹. However, evaluation of national data on national child developmental screening programme (DSPM) from April 2015 to February 2017 found that 43% of children failed to return for their second screening³⁰.

As for Malaysia, according to the recent National Health Morbidity Survey (NHMS) on Maternal and Child Health (MCH), about 60% of children missed their attendance in government health clinics³¹. Previously, a study done on missed appointment among toddlers to government health clinics in Tumpat, Kelantan, reported of 46.7% girls and 53.3% boys missed their child health clinic appointments³². Shamsul et al also found that 16.8% of children in Sabah missed their scheduled appointment to child health clinics for immunization³³.

Consequences of Missed Attendance at Primary Care among Children

Missed attendance among children to primary care have substantial clinical and economical effect. It is a self-perpetuating cycle^{34, 35} that affects the quality of patient care, missed diagnosis and late commencement of treatment which will subsequently increase the burden of healthcare cost in the country^{36, 37}. A confidential enquiry revealed that missed attendance to clinic appointment was a modifiable factor for child mortality³⁸. When a child missed their clinic attendance, it causes missed opportunities for children to receive treatment or preventive care in primary care³⁹ which might lead to poorer health outcome⁴⁰. In a study done among adult patients, missed attendance to clinic appointments lead to increase utilization of emergency department which increase the hospital cost and workload^{41, 42}. Missed attendance among children to clinic appointment also raises concerns on missed opportunity to detect child safeguarding⁴³. In terms of economical impact, missed attendance to primary care creates wastage of resources such as underutilization of healthcare providers' time and loss of hospital profits from general practitioner referrals⁴⁴. Subsequently, patients or payers may later be overcharged for service utilization³⁹.

Intervention to Improve Missed Attendance at Primary Care among Children

Different techniques have been studied to reduce missed attendance to healthcare. Children are dependent to their parents/guardians to attend their appointment, thus, interventions were only directed at the parents/guardians which is similar with the intervention for adults who missed attendance to clinic appointment⁵⁰. Reminder system has been suggested by many general practitioners and was proven to reduce missed attendance in primary care⁵. Many other interventions have been proposed by parents/guardians to improve attendance rate such as evening clinics, improved transport system, flexible appointment system and having

community clinics closer to home⁵. Parents/Guardians also need to be educated about the costs and implications of missing appointments, stressing the reason for appointment and their rights and responsibilities to cancel appointments⁵. Healthcare organizations continuously creating interventional strategies to reduce missed attendance, but these strategies were found not always focus on the needs of the children¹.

II. Material and Methods

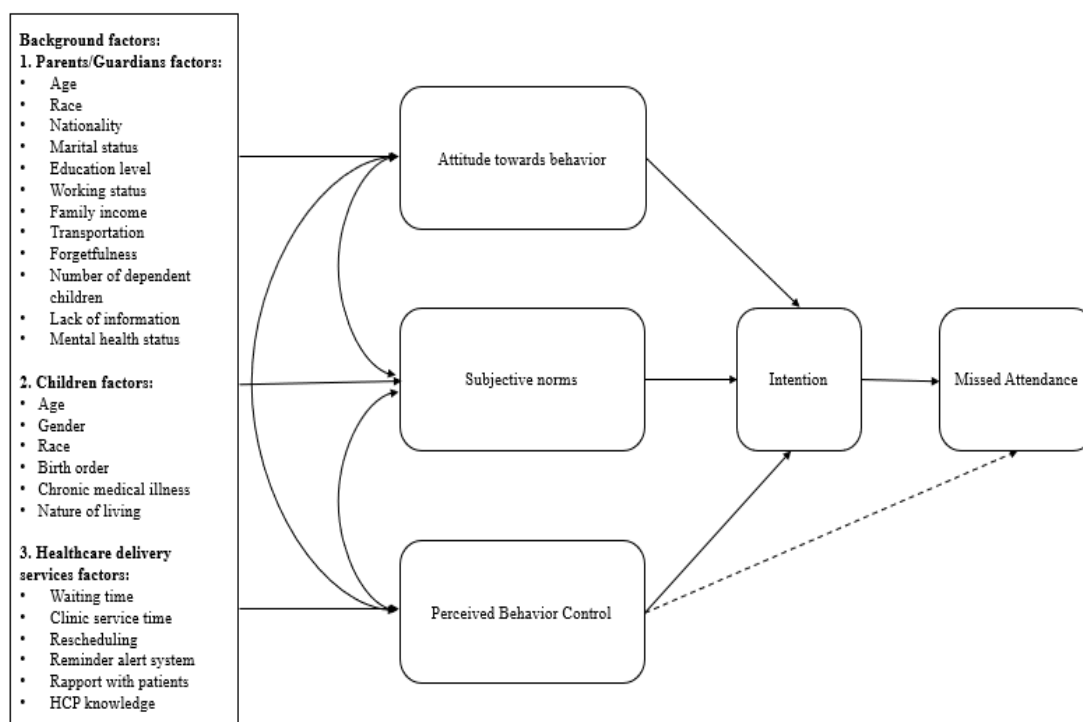


Figure 1: Factors influencing children missed attendance at well child clinics in primary care (Adapted from Theory of Planned Behavior by IcekAjzen)

Theory of Planned Behaviour was extensively used in understanding variety of behaviours including health behaviour⁴⁵. An individual will usually consider the implication of their action before deciding how to behave. Predictor of a behaviour is based on the strength of intention in a situation. Thus, intention is the best predictor of a behaviour. Based on Theory of Planned Behaviour (TPB), the fundamental information about an individual's behaviour relies on the three constructs and according to IcekAjzen, there is a possible background factors which may influence an individual's beliefs such as personal factors, demographic factors and exposure to information⁴⁶. These background factors may influence intentions and behaviour indirectly by their effects on the theory's more proximal determinants⁴⁶. The factors described in this literature review will be based on a conceptual framework adapted from Theory of Planned Behaviour by IcekAjzen (Figure 1). Three factors will be discussed in this literature review which were parents/guardians' factors, children factors and healthcare services factors.

III. Results & Discussion

Factors Associated with Missed Attendance among Children at Well Child Clinics in Primary Care

1. Parents/Guardians' Factors

Children depend on their parents/guardians to access to healthcare. Dependency on their parents/guardians causes them vulnerable to miss their attendance to healthcare appointments. Thus, parents/guardian is one of the factors of missed attendance at primary care among children. In Malaysia, parents age was found to be not associated with missed attendance to primary care among children^{32, 33}. However, in another study, younger age parents were found to be adhering to their child appointment due to their inexperience in raising up their children⁴⁷. This is commonly seen among first time parents where they lacked knowledge in recognising developmental problems in their children⁴⁷. In Malaysia, parents with more than 5 children were found to be highest in the missed attendance to primary care group³². Parents with more than one child have more confidence in recognising health problems in their children based on their experience^{47, 48}. Also,

parents who have health or development problems in their families were more alert about their children's wellbeing^{47, 48}.

In a family, women play an important role in taking care of her family well-being. Mothers or female guardians were often seen bringing the children to attend their appointment. Therefore, mothers use of healthcare services were strongly associated with their children attendance to healthcare^{47, 49}. In Muslim countries like Saudi Arabia where females needed to be chaperoned upon leaving the house, they must depend on another person to take her and her children for appointment³⁷. Due to this, 76.9% women missed attendance to primary care in Alwazarat³⁷.

Ethnicity was also found to be associated with missed attendance to primary care. In a scoping review on missed attendance at healthcare among children, Chinese and Indian ethnicity were less likely to miss healthcare appointment⁵⁰. However, based on a qualitative study, general practitioners referred family who missed their children attendance to primary care were usually from minority ethnicity⁵. A study in America showed that African American ethnicity were found significantly associated with missed attendance among children at an urban primary care clinic⁶. In Australia, non-Australian parents appreciate Australian child health services but when it conflicted with their culture, such as breastfeeding practices, missed attendance occur⁴⁷. Parents also preferred health care providers who were able to speak their first language for effective communication⁴⁷. Study have found that utilizing interpreters in primary care has significantly reduced missed attendance⁶.

As for parents/guardians' marital status, Alhamad found that there was no relationship between marital status and adherence to appointment in primary care³⁷. However, there was an article which showed that single parenthood contributed to missed attendance at primary care mental health services⁵⁰. In contrast, a study in Malaysia showed that married women in Kelantan were more likely to miss attendance at primary care due to business activities as compared to single mothers (Noor Hafizan et al. 2013). There were inconsistent findings between marital status and missed attendance at primary care among children which need to be further explored.

Level of education, working status and total family income were the important factors of socioeconomic determinants which contribute to miss attendance to healthcare^{37, 50}. Missed appointment to primary care were more likely among parents/guardians who were unemployed³⁷. However, in Malaysia, employed parents showed significant association with missed attendance among children to primary care clinic^{32, 33}. Employed mothers were two (2) times more likely to missed child attendance to primary care as compared to unemployed mothers³². This is because working mothers have less time or have problems with taking time off from work to bring their children to preventive health services^{6, 51}. When working mothers must prioritise work or well child clinic due to lack of time, they will usually forego preventive services due to unaware of its importance⁵¹. Maternal paid sick leave and working fewer hours per week has been found to improve adherence to well child clinics⁵¹.

Parents who were illiterate and low education level were also associated with missed attendance among children to primary care^{32, 33, 37}. Mothers who have poor knowledge were eight (8) times more likely to miss child attendance to primary care³².

Financial limitation was found to be a barrier for parents/guardians to attend primary care^{5, 47, 50}. Public payors were found to be correlated with missed attendance in primary care⁶. However, in Malaysia, family income was not significantly associated with missed attendance among children at primary care due to subsidized medical charges in government health clinics³². In Malaysia, missed attendance to primary care were five (5) times more likely to occur among mothers with poor social support³².

Location of a healthcare centre is essential in universal health coverage. Healthcare located far from home need a good mode of transportation to access it. Previous studies have found that unavailability of transportation contributes to missed attendance at primary care^{37, 50}. Parents with many children find difficulty in travelling using public transportation which prevent them from attending primary care visits⁵. Parents/Guardians were more likely to attend their children appointment when they have their own car³⁷. In Malaysia, transportation to access primary care was not an issue due to the location of the health care centres which were located within the community³². However, parking could be an issue which leads to missed attendance among children to primary care⁵.

Besides that, good appointment system is another key factor. The general practitioners perceived that missed attendance among children to primary care could be due to poor administration of appointment scheduling⁵. The gap between the subsequent appointment and former appointment is important because parents tend to forget their children clinic appointment dates when the appointment was set in more than 2 weeks⁵⁰. In a study involving foster caregivers, it was found that 86% caregivers attend child's appointment scheduled within 2 months from initial appointments and reduces to 45% when the child's appointment is within 5 months from the initial appointment⁵². When an appointment given for a long duration, foster caregivers portray that the follow up is of less importance and they tend to forget⁵².

Parents/Guardians with more than one child were busy managing other children health problems to focus in bringing children for well child clinics^{5, 47}. Thus, parents/guardians streamlined their children healthcare causing younger children to miss their well child clinic visits⁴⁷. A few other studies done in primary care found that parents/guardians missed their children primary care appointment due to responsibilities with other older children such as the timing for drop off or picking up the children clashes with the clinic appointment time^{5, 50}. However, on contrary, number of children was shown to be not associated with missed attendance at primary care among children in a study done in Alwazarat³⁷. Parents/guardians of disabled child were found to have similar problem with parents/guardians with non-disabled child⁵⁰.

Parents/Guardians need to be educated on general child development, specific disability in their children (if any) and the services available to help their children⁴⁸. Having these knowledge, parents/guardians will give importance to attend their children's primary care appointments⁴⁸. In a study done by Busey et al. 2002, 65% parents would like to receive written information about child nutrition, how to perform in school and outdoor child safety⁵³.

Parents/Guardians with poor attitudes and beliefs in preventive services were 35% more likely to miss their children well child clinic appointments⁴⁹. Similarly, parents in Malaysia who have negative perceptions on preventive services were two (2) times more likely to miss child attendance to primary care³². When the parents/guardians believe that their children have no problems, they will not bring their children for the preventive services^{5, 6, 49}. Parents/guardians health beliefs were influenced by their social relationships such as other family members, friends with similar child age, teachers and childcare agency; and social influences from books and websites⁴⁷.

Psychosocial factors such as depression, stress and anxiety were found to be related with missed attendance at primary care among children. Lyngsoe et al mentioned that maternal depression is linked with mother and child relationship uncertainty, emotional tactlessness and poor parenting practise⁵⁴. Depression among mothers were found to be associated with missed attendance at well child clinics⁵⁴. Mothers who have recent depression were 16% more likely to miss their children childcare visit because they place less priority to their children health needs⁵⁴.

Parents/Guardians anxiety was known to be associated with health seeking behaviour for their children⁵⁵. An article review found that mothers with health anxiety have more protective behaviour when their children were sick⁵⁶. They were more worried about their children wellbeing and have negative illness perceptions as compared to normal mothers⁵⁶. In a case-control study among adults, frequent attenders to primary care were 22 times more likely to have anxiety disorders as compared to non-attenders⁵⁷. On the other hand, there was also a study which showed a reverse finding. Some parents felt anxious to attend their children mental health clinics in primary care which prevent them from attending⁵⁰. They were worried to be blamed for their child's condition and losing custody of their children⁵⁰.

Mothers with disabled children were found to have more negative expressions such as worry and guilt which creates stress in them⁴⁸. On contrary, fathers were found to have positive expressions to stay strong to support their children and spouses⁴⁸. These expressions were found to increase their children's attendance to primary care appointments⁴⁸. However, if parental stress happened when they encountered frustration due to unmet expectation in a therapy session, it may lead to missed attendance to receive therapy in primary care⁴⁸.

2. Children Factors

When the children missed their attendance to preventive care services, there will be a risk of missed opportunity for child health^{51, 58}. Children's characteristics may contribute to missed attendance at healthcare². Missed attendance at healthcare among children were found to be associated with children age less than 5 years old⁵⁰. On contrary, Samuels et al. found that older age children were three (3) times more likely to missed attendance in primary care⁶. Other studies also found that children who missed attendance to healthcare were associated with low socio-economic families, living in underprivileged neighbourhood, minor ethnicities, having disabilities and children who need multiple appointments due to other illness^{2, 6, 37, 50}. Children living with foster guardians were found to have similar pattern of missed attendance to children's follow up appointment as compared to children living with birth parents⁵².

In Malaysia, one study done in Kelantan describing the characteristics of children (age 1 to 4 years old) who missed attendance to government health clinics which were males (53.3%), ≥ 2 years old (70.9%), siblings less than 5 (70.9%) and birth orders more than 1 (76.1%)³². However, these factors were later found to be not associated with missed attendance after further analysis³².

3. Healthcare Services Factors

There were also studies relating missed attendance among children to healthcare delivery system. Waiting time was found as one of the barriers to clinic attendance. In a study done on missed attendance to primary care which provides mental health services, parents claimed that long waiting times causing them to

miss their children attendance⁵⁰. Clinics with hectic schedules hampers parents from allocating time for preventive services⁵³. In one of the studies, primary care providers suggested more flexible and convenience appointment time to improve missed attendance⁵. Other suggestions to improve missed attendance were the clinic service time to be extended till late evening or clinics to be open during the weekend⁵. A recent study on missed attendance to primary care among mothers with cerebral palsy child found that parents also prefer clinic service extension time for their convenience⁵⁹.

Some parents claimed to have difficulty in booking an appointment which prevent them from attending their children primary care visits³⁷. In a qualitative interview with general practitioners, they find that poor appointment administration was a barrier for parents to attend their child appointment⁵. Good data quality from a systematic appointment scheduling is important to improve missed attendance in health care⁵⁰. However, recording and administrative errors were found to be common in health care⁵⁰. Some healthcare organizations did not have accurate policies on recording missed attendance in healthcare⁵⁰. In England, 49% of primary care did not have a policy on tracking the children who missed attendance to primary care¹. Similarly, in Malaysia, there was also no documented guideline on addressing defaulters among children to the Maternal and Child Health (MCH) clinics⁶⁰.

Clients who missed primary care appointment were more likely to miss more appointments in the future³⁷. Parents who did not receive a reminder prior to appointment more likely to miss attending their children follow ups⁵⁰. Reminder via text message has been found to be most effective as compared to reminder via telephone or mail^{61, 62}. Automatic reminder notification via text message was found to be low cost, convenient, confidential, quick and simple⁶³. However, on the contrary, recent study by Crutchfield&Kistler found that patients preferred to receive 'mobile reminders' such as e-mails and phone calls rather than text message³⁹. A standard appointment reminder to patients were commonly given to patients⁶⁴ but recently, it was found that the reminder content such as location, rescheduling and reason for visit were preferred by patients³⁹. Single reminder within 1 – 6 days prior to appointment were preferred by most patients³⁹.

Usually, missed attendance among children happened among dysfunctional families⁵⁰. And, due to regular contact with parents, the general practitioners were reluctant to intervene with parental responsibilities⁵. Good rapport between parents and healthcare providers is important to ensure continuous attendance of children to health care⁵⁰. Frequently changing doctors in primary care was found to be associated with missed attendance among children to primary care⁶. Belletiere et al. found that 2.9% of parents have difficulty in trusting doctors⁴⁹. Parents were also found to be unsatisfied with the standard checklist for Healthy Kids Check Up⁴⁷. Parents expected healthcare providers to address more on parents worries and focus on the child while treating them rather than focusing on the child development items^{47, 50}. Therefore, good rapport provides parents comfort with healthcare providers which may improve the quality of care for the children⁶.

Quality of patient care depends on the healthcare providers knowledge and skills⁶⁵. Many parents lack of information on the preventive services for their children in primary care and unfortunately, it was also found that some general practitioners were lack of knowledge on Healthy Kids Check up⁴⁷. Some healthcare providers find it worthless to educate patients who only wants treatment in primary care⁶⁵. Healthcare providers need to improve their knowledge continuously to provide good service delivery⁶⁵.

IV. Conclusion

Missed attendance is a common problem worldwide which have effects on the children, parents/guardians and healthcare system. Studies have found that missed attendance to primary care may cause children morbidity and mortality. Theory of Planned Behaviour was adapted to build the conceptual framework for this literature review. Factors discussed were modifiable factors which intervention can be carried out. Thus, recognising these factors can be a guide in overcoming the chronic problem of missed attendance among children at well child clinics in primary care.

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