

科技部補助專題研究計畫報告

孕婦與伴侶實際接種流感疫苗之預測因素：多中心追蹤研究

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執行單位：國立臺灣大學醫學院護理學系暨研究所

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本研究具有政策應用參考價值：否 是，建議提供機關衛生福利部
(勾選「是」者，請列舉建議可提供施政參考之業務主管機關)
本研究具影響公共利益之重大發現：否 是

中華民國 110 年 10 月 30 日

中文摘要：背景：懷孕婦女感染流感後容易產生併發症，造成對母親或是胎兒的不良後果，因此世界衛生組織與我國衛生福利部將孕婦列為應優先施打流感疫苗的對象，但台灣孕婦接種流感疫苗涵蓋率仍偏低，且伴侶對於孕產婦是否接種疫苗具有影響力。

目的：本研究旨在建構懷孕婦女與其伴侶於孕產期實際接種流感疫苗之預測模式。

方法：於台灣北、中、南、東四區域各選取一家婦產科門診進行收案。選樣條件：(1)妊娠滿12週之孕婦與其男性配偶，(2)孕婦與其配偶年齡均在20歲以上，(3)夫妻雙方均同意參與研究、同意簽署同意書者；排除條件：(1)懷孕過程婦女曾發生相關重大疾病或(2)胎兒或嬰兒具有先天異常。以連續取樣與世代研究進行大樣本調查，調查全台孕婦及其伴侶對於接種疫苗的態度調查，受訪者接種後回報實際施打情形。以羅吉斯階層迴歸檢定實際接種行為之概念模式。

結果：疫苗接種率有地區顯著差異，且伴侶接種率比孕婦低許多。詳細來說，孕婦接種率整體43%(284/656)：北部68%、中部31%、南部42%、東部49%(Chi-square 46.16, $p < 0.001$)；伴侶接種率整體17%(104/625)：北部33%、中部18%、南部13%、東部9%(Chi-square 29.08, $p < 0.001$)。羅吉斯迴歸分析結果顯示，孕婦接種行為影響因素包含：教育程度(OR=1.54, $p = .016$)、相較於北部，住在中部(OR=0.29, $p < .001$)與南部(OR=0.54, $p = .036$)者接種機率較低、自覺障礙(OR=0.91, $p = .015$)、自我效能(OR=1.17, $p < .001$)、社會規範感較強(OR=2.43, $p < .001$)與伴侶有接種疫苗(OR=5.51, $p < .001$)，整體模式解釋力(R²)達62%；伴侶接種行為影響因素包含：教育程度(OR=1.77, $p < 0.001$)、自我效能(OR=1.22, $p < .001$)、孕婦有接種疫苗(OR=6.87, $p < .001$)；此外，相較於北部，住東部的伴侶接種機率較低(OR=0.46, $p = .046$)，整體模式解釋力(R²)達41%。

結論：整體而言，孕婦與伴侶的實際疫苗接種率有地區顯著差異。懷孕婦女與其伴侶於孕產期實際接種流感疫苗之預測模式均包含「自我效能」，故促進疫苗接種自我效能，應可有效提升孕婦與其伴侶接種流感疫苗行為。此外，降低「自覺障礙」(如：降低打針疼痛、釐清疫苗迷思、使孕婦接種方便)、強化「社會規範」(如：大部分孕婦會接種流感疫苗)，並且應鼓勵伴侶結伴同行一起打疫苗，預期可提升孕婦與其伴侶之實際接種流感疫苗行為。

中文關鍵詞：流感疫苗、接種、懷孕、伴侶、健康信念模式

英文摘要：Background. Pregnant women are susceptible to complications after influenza infection, causing adverse consequences to mothers and fetuses. Thus, World Health Organization and the Ministry of Health and Welfare of Taiwan have recommended pregnant women as the priority for influenza vaccines. However, the coverage rate of influenza vaccination among pregnant women remains low in Taiwan. Moreover, pregnant women's partners may also influence pregnant women's decision on receiving flu vaccination. Objective. This project aims to construct a prediction model to predict influenza vaccination behaviors for

pregnant couples.

Methods. Antenatal clinics in North, Central, South, and East of Taiwan were selected for recruiting participant. Inclusion criteria include pregnant women and their male spouses (1) who are 12 weeks of pregnancy, (2) both over 20 years old, and (3) both agree to participate in research and sign consent forms. Exclusion criteria included: (1) pregnant women with severe illness or (2) women with the fetus with congenital abnormality. Consecutive sampling and cohort study were used. The survey collected the attitudes and consideration of pregnant women and their partners to the vaccination in Taiwan. Actual vaccination behavior was reported by participants after vaccination. Hierarchical Logistic regression was used to examine the prediction model of vaccination behaviors of Taiwanese pregnant couples.

Results. Regional differences in vaccination rates were found, and the actual vaccination rate of partners was much lower than that of pregnant women. Specifically, the overall actual vaccination rate for pregnant women is 43% (284/656): 68%, 31%, 42%, and 49% in the north, middle, south, and east, respectively ($p < 0.001$); the actual vaccination rate for partners is 17% as a whole (104/625): 33%, 18%, 13%, and 9% in the north, middle, south, and east, respectively ($p < 0.001$). The logistic regression analysis showed that the predictors of actual vaccination of pregnant women include: education level (OR=1.54, $p = .016$), compared with the north, people living in the middle (OR=0.29, $p < .001$) and south (OR=0.54, $p = .036$) have a lower vaccination rate, self-consciousness (OR=0.91, $p = .015$), self-efficacy (OR=1.17, $p < .001$), sense of social norms (OR=2.43, $p < .001$) and vaccinated partner (OR=5.51, $p < .001$). The overall model explained the amount of variation reaches 62%. Partners' actual vaccination factors include: education level (OR=1.77, $p < 0.001$), self-efficacy (OR=1.22, $p < .001$) and vaccinated pregnant partners (OR=6.87, $p < .001$). Further, compared with the north, partner living in the east have a lower chance of vaccination (OR=0.46, $p = .046$). The overall model explained the amount of variation reached 41%.

Conclusion. Overall, the actual vaccination rates showed regional differences, but not ethnic differences among pregnant women and their partners. "Self-efficacy" predicted the actual influenza vaccination for pregnant women and their partners. Therefore, promoting self-efficacy of vaccination should effectively improve the behavior of pregnant women and their partners for influenza vaccination. In addition, reduce "consciousness

barriers” , strengthening “social norms” , and encouraging partners to vaccinate with pregnant women are expected to improve the actual influenza vaccination behavior of pregnant women and their partners.

英文關鍵詞： influenza vaccine, vaccination, pregnancy, partner, Health Belief Model

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摘要

背景：懷孕婦女感染流感後容易產生併發症，造成對母親或是胎兒的不良後果，因此世界衛生組織與我國衛生福利部將孕婦列為應優先施打流感疫苗的對象，但台灣孕婦接種流感疫苗涵蓋率仍偏低，且伴侶對於孕產婦是否接種疫苗具有影響力。

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結論：整體而言，孕婦與伴侶的實際疫苗接種率有地區顯著差異。懷孕婦女與其伴侶於孕產期實際接種流感疫苗之預測模式均包含「自我效能」，故促進疫苗接種自我效能，應可有效提升孕婦與其伴侶接種流感疫苗行為。此外，降低「自覺障礙」(如：降低打針疼痛、釐清疫苗迷思、使孕婦接種方便)、強化「社會規範」(如：大部分孕婦會接種流感疫苗)，並且應鼓勵伴侶結伴同行一起打疫苗，預期可提升孕婦與其伴侶之實際接種流感疫苗行為。

關鍵詞：流感疫苗、接種、懷孕、伴侶、健康信念模式

Predictors of receiving flu vaccine among pregnant couples:

Multi-center cohort study

Abstract

Background. Pregnant women are susceptible to complications after influenza infection, causing adverse consequences to mothers and fetuses. Thus, World Health Organization and the Ministry of Health and Welfare of Taiwan have recommended pregnant women as the priority for influenza vaccines. However, the coverage rate of influenza vaccination among pregnant women remains low in Taiwan. Moreover, pregnant women's partners may also influence pregnant women's decision on receiving flu vaccination.

Objective. This project aims to construct a prediction model to predict influenza vaccination behaviors for pregnant couples.

Methods. Antenatal clinics in North, Central, South, and East of Taiwan were selected for recruiting participant. Inclusion criteria include pregnant women and their male spouses (1) who are 12 weeks of pregnancy, (2) both over 20 years old, and (3) both agree to participate in research and sign consent forms. Exclusion criteria included: (1) pregnant women with severe illness or (2) women with the fetus with congenital abnormality. Consecutive sampling and cohort study were used. The survey collected the attitudes and consideration of pregnant women and their partners to the vaccination in Taiwan. Actual vaccination behavior was reported by participants after vaccination. Hierarchical Logistic regression was used to examine the prediction model of vaccination behaviors of Taiwanese pregnant couples.

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self-consciousness ($OR=0.91$), self-efficacy ($OR=1.17$), sense of social norms ($OR=2.43$) and vaccinated partner ($OR=5.51$). The overall model explained the amount of variation reaches 62%. Partners' actual vaccination factors include: education level ($OR=1.77$), self-efficacy ($OR=1.22$) and vaccinated pregnant partners ($OR=6.87$, $p<.001$). Further, compared with the north, partner living in the east have a lower chance of vaccination ($OR=0.46$). The overall model explained the amount of variation reached 41%.

Conclusion. Overall, the actual vaccination rates showed regional differences, but not ethnic differences among pregnant women and their partners. "Self-efficacy" predicted the actual influenza vaccination for pregnant women and their partners. Therefore, promoting self-efficacy of vaccination should effectively improve the behavior of pregnant women and their partners for influenza vaccination. In addition, reduce "consciousness barriers", strengthening "social norms", and encouraging partners to vaccinate with pregnant women are expected to improve the actual influenza vaccination behavior of pregnant women and their partners.

Keywords: influenza vaccine, vaccination, pregnancy, partner, Health Belief Model

109年度專題研究計畫成果彙整表

| | | | | | |
|---------------------------------|-------|--------------------------|----|---|--|
| 計畫主持人：張皓媛 | | 計畫編號：109-2629-B-002-001- | | | |
| 計畫名稱：孕婦與伴侶實際接種流感疫苗之預測因素：多中心追蹤研究 | | | | | |
| 成果項目 | | 量化 | 單位 | 質化 (說明：各成果項目請附佐證資料或細項說明，如期刊名稱、年份、卷期、起訖頁數、證號...等) | |
| 國內 | 學術性論文 | 期刊論文 | 0 | 篇 | |
| | | 研討會論文 | 0 | | |
| | | 專書 | 0 | 本 | |
| | | 專書論文 | 0 | 章 | |
| | | 技術報告 | 0 | 篇 | |
| | | 其他 | 0 | 篇 | |
| 國外 | 學術性論文 | 期刊論文 | 0 | 篇 | |
| | | 研討會論文 | 0 | | |
| | | 專書 | 0 | 本 | |
| | | 專書論文 | 0 | 章 | |
| | | 技術報告 | 0 | 篇 | |
| | | 其他 | 0 | 篇 | |
| 參與計畫人力 | 本國籍 | 大專生 | 5 | 人次 | 產前教育與流感疫苗為現今婦幼健康之重點潮流，對於未來推展婦幼健康將有更充分的概念，對於培育產科護理專業人才有幫助。知識方面，學生廣泛地瞭解流感疫苗與婦女健康相關的學術知識。技能方面，學生學習到諸多研究計劃執行的技能，包含：搜尋文獻、找出文獻電子檔、文獻電子檔的歸檔、文獻內容節錄、綜合討論多篇相關文獻、用文字清楚地呈現自己的想法、中肯且有說服力地呈現貢獻、高效率地使用文書處理軟體、以及觀摩學習使用統計軟體。 |
| | | 碩士生 | 2 | | |
| | | 博士生 | 0 | | |
| | | 博士級研究人員 | 0 | | |

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|---|---------|--|---|--|
| | 專任人員 | | 1 | 產前教育與流感疫苗為現今婦幼健康之重點潮流，對於未來推展婦幼健康將有更充分的概念，對於培育產科護理專業人才有幫助。知識方面，廣泛地瞭解流感疫苗與婦女健康相關的學術知識。技能方面，學習到諸多研究計劃執行的技能，包含：搜尋文獻、找出文獻電子檔、文獻電子檔的歸檔、文獻內容節錄、綜合討論多篇相關文獻、用文字清楚地呈現自己的想法、中肯且有說服力地呈現貢獻、高效率地使用文書處理軟體、以及觀摩學習使用統計軟體。 |
| 非本國籍 | 大專生 | | 0 | |
| | 碩士生 | | 0 | |
| | 博士生 | | 0 | |
| | 博士級研究人員 | | 0 | |
| | 專任人員 | | 0 | |
| <p>其他成果 (無法以量化表達之成果如辦理學術活動、獲得獎項、重要國際合作、研究成果國際影響力及其他協助產業技術發展之具體效益事項等，請以文字敘述填列。)</p> | | | <p>此研究目前有以下四項質化成果：(1)結案報告，正撰寫為英文稿件，預計將投稿於Vaccine期刊，研究者近期曾發表國際合作文章於此篇期刊(Kerekes S, Ji M, Shih SF, Chang HY, Harapan H, Rajamoorthy Y, et al. Differential Effect of Vaccine Effectiveness and Safety on COVID-19 Vaccine Acceptance across Socioeconomic Groups in an International Sample. Vaccines. 2021;9(9).)。 (2)此研究與國內四大區域之著名醫療機構合作，建構合作默契，對於未來全國分區性的聯合調查將有助益。(3)此研究具有台灣四大區域的資料，具有代表性，在未來兩年內，研究成果亟具發表潛力，並且具有影響國際影響力。(4)此研究發現的內容，可供衛生福利部疾病管制署在推動流感疫苗接種時的重要參考。</p> | |