Applying the Health Belief Model: Adherence to Hearing Protection Use in Young Farmers Ages 14-24

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Statistics

- 3.3 million farmers in the United States\(^1\)
- 1 out of 3 Farmers has NIHL\(^2\)
- Use of hearing protection device (HPD) is low among farmers\(^3, 4, 5\)
Noise Induced Hearing Loss (NIHL)

- Preventable\textsuperscript{6, 7}
- Cumulative
- Permanent
- Results of continued exposure to equipment, animals, guns\textsuperscript{2}
- Can affect a person’s learning, communication, social interaction, and safety\textsuperscript{2, 3, 5}
Why 14-24 years of age?

- 472,000 of farmers are youth < 17 years of age¹
- Federal Labor Laws: legally perform farm work at age 14 ⁸
- NIHL cumulative over first 10 years of exposure²
- Damage may not be apparent until later in life²
Additional info
NIHL in Youths in Agriculture

- Difficult to track data on rural youth\textsuperscript{9}
- No studies to indicate when NIHL begins\textsuperscript{10}
- Rural youth have increased incident of NIHL when compared with urban counterparts \textsuperscript{11,12,13}
- Has been detected in youth as young as 14\textsuperscript{14}
- Lack of policies
Gaps in the literature

What is known:

- Rural youths have increased incident when compared to urban counterparts\textsuperscript{11, 12, 13}
- 1 in 3 farmers have NIHL\textsuperscript{2}
- Use of HPD is low in farmers\textsuperscript{3,4,5}
- Education is effective in changing attitudes and a readiness to seek health behaviors\textsuperscript{11,15,16,17}
- Intention $\neq$ Adherence
Gaps, continued

What is not known:
- Prevalence of HPD use adherence in young farmers age 14-24
- Barriers in adherence to HPD use in young farmers age 14-24
- Relationship between adherence to HPD and barriers to wearing HPD in young farmers age 14-24
Purpose

To apply the Health Belief Model (HBM) to identify barriers as to the consistency and continuation of adherence of HPD into adulthood.
Health Belief Model

- Thoroughly evaluated
- Considered to be one of the most influential models in health promotion\textsuperscript{16}
- Utilized in other studies to promote hearing protection due to its applicability to this type of behavior change\textsuperscript{16,17,18}
The Health Belief Model

Modifying Variables

Perceived Seriousness

Perceived Susceptibility

Perceived Benefits vs. Perceived Barriers

Perceived Threat

Self-Efficacy

Cues to Action

Likelihood of Engaging in Health-Promoting Behavior
Limitations to HBM...

**Modifiable**
- Cultural/Sociological
- Environmental
- Psychological
- Environmental
- Developmental Age
- Health Literacy

**Non-Modifiable**
- Financial
- Age
- Gender
- Physiological
Particularly important...

- Maturity level of age group 14-24\textsuperscript{18}
- 84% men
- Rural\textsuperscript{19}
Factors that Influence the Use of HPD
Modified from Health Belief Model

- Modifiable Variables
  - Health literacy
  - Psychological
  - Cultural
  - Sociological
  - Environmental
  - Developmental
  - Age
- Non-Modifiable
  - Financial
  - Age
  - Gender
  - Physiological

Perceived benefits versus barriers
Perceived Threat
Self-Efficacy
Cues to Action

Intent → Behavior Change → Adherence
Future utilization of the modified model constructs:

Mixed method study:

1) Qualitative: to identify barriers of HPD use
2) Statistical data to quantify
   a) predict influence of modifiable variables and their relationship to adherence of HPD use
   b) establish baseline for future comparison of intervention effects
Summary...

We must identify gaps and barriers to the consistency and continuation of adherence to HPD in order to develop targeted strategies to address lack of adherence. Adherence to HPD will prevent NIHL in farmers increasing their quality of life into and including adulthood.
Questions?
References


References continued...


